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A CRITICISM OF THE BLOOD-PRESSURE APPARATUS*

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The sphygmomanometer is generally assumed to be an instrument which enables us to measure the maximum and minimum endovascular arterial pressure. If this assumption is true, it does not follow that we have any data on which to estimate the mass movement of blood, the real problem that remains to be solved in the study of cardiovascular diseases. In subjects with a normal vascular system the blood-pressure apparatus gives us reliable information about the maximum systolic pressure. But in clinical experience it can be shown that the blood-pressure apparatus gives misleading information even on this basic point. The diastolic blood-pressure can be measured about as accurately as the systolic blood-pressure. But the diastolic endovascular pressure is not a measure of the systole of an artery. In other words, we may have the equivalent of a normal diastolic pressure and the artery remain full of blood during the cardiac diastole.

We are perfectly familiar with stasis in the centrifugal stream with high diastolic pressure as seen in chronic interstitial nephritis, but I doubt if it is generally recognized that we may have the equivalents of normal systolic and diastolic pressures and still have a marked stasis in the centrifugal blood-stream.

ESTIMATION OF DIASTOLIC PRESSURE BY SPHYGMOMANOMETER CONTROLLED BY PALPATION OF ARTERIES

Another point of interest I wish to discuss is the manner of estimating diastolic pressure in an artery and the reason for its reliability. Since the sphygmomanometer has been devised there seems to be a very general concession by clinicians that endovascular blood-pressure can be estimated only by instrumental means and that the older method of relying on the fingers is inaccurate and misleading. The source of error does not lie so much in the sense of touch as in the choice of the artery from which the estimate is made. I readily admit the impossibility of making an accurate estimate of blood-pressure from the radial or even the brachial artery. The only artery which serves this purpose is the femoral artery. The reason for this is very apparent. The femoral artery at Poupart's ligament is very accessible and lies on the pubes against which the artery can be compressed. Here we have an artery which gives us practically the lateral pressure in the abdominal aorta and lies under the mastery of the finger. When we palpate an artery, we do not feel the endovascular pressure, but we really feel the bursting tension of the arterial wall. The bursting tension on the walls of a hydraulic tube is equal to πR times the pressure, that is, 3.1416 times the radius of the tube multiplied by the pressure. This result is obtained by multiplying the circumference of the tube, which is $2 \pi R$ by the known pressure per centimeter square and then dividing the result by two. The product of the circumference and pressure must be divided by two, because the bursting tension would be equal to the pressure on one side only of any given diameter of the tube. Therefore, πR times the pressure equals the bursting tension in any artery.

If pressure remains constant, the bursting tension will vary directly as the radius of the artery. If we now assume the femoral artery to have a radius four times that of the radial artery, it is quite apparent that any variation in pressure will be magnified four times in estimating the bursting tension of the femoral artery as compared with the bursting tension in the radial artery. This is analogous to the comparison between a microscopic view of 200 diameters and a microscopic view of 50 diameters. During the past four years it has been my practice to estimate the arterial pressure by palpating the femoral artery and afterward to use the blood-pressure apparatus. A little practice will enable one to estimate the blood-pressure very accurately. In pressures between 150 mm. Hg and 250 mm. Hg I find that there is rarely a disparity of more than 20 mm. between the digital and instrumental estimate, and as a rule the disparity is within 10 mm.

RESISTANCE OF ENDOVASCULAR BLOOD-PRESSURE AND HYPERTONIC VASCULAR WALLS TO PNEUMATIC CUFF

When very high pressures are recorded by the sphygmomanometer, the question has been raised as to whether the resistance offered the pneumatic cuff really represents endovascular pressure or the resistance of a hypertonic arterial wall plus endovascular pressure. The fact that supposedly high blood-pressures are often tolerated for years and with so little evidence of myocardial enlargement compels us to respect this criticism; but, on the other hand, when we have opportunity to study great oscillations of blood-pressure in a patient it seems very improbable that the resistance offered by the femoral artery should consist in wall resistance and the artery vary so little in volume during the periods of high and moderate pressure.

A year ago a patient at Lakeside Hospital had a blood-pressure which varied from 180 mm. Hg to 350 mm. Hg. These periods of hypertonus would last for several successive days and then subside. When the pressure registered as high as 350 mm. Hg in the arm, the resistance in the femoral artery was enormous. When the pressure would again descend to 180 mm. Hg the

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femoral artery would feel slightly larger, but the difference in caliber could not have been great, for the variations in size of the femoral artery gave no hint of the change in pressure. If this great change in resistance of the arterial wall was due to resistance of a hypertonic wall and not to endovascular pressure we certainly had reason to expect great changes in the caliber of the vessels. This is always true in smaller arteries like the radial, where the proportion of muscular tissue in the arterial wall is much greater than in the femoral artery.

Since the arterial blood-pressure has been a subject of extended clinical observation, it has become apparent that either high endovascular pressure does not tax the heart so severely as we formerly believed or our measurements have been misleading, in so far as they have led to inferences regarding expenditures of energy in the output of the left ventricle.

REPORT OF CASES

CASE 1.—During the past winter a woman 50 years of age, who came under my observation, presented a very interesting problem in arterial pressure. The patient had not yet passed the menopause and had the appearance of being in good health. There is nothing in her family history or personal history which has any bearing on her present disability, except that the patient had always been a rather nervous person and for five years prior to the development of her first symptoms (which occurred eighteen years ago) she endured a great deal of worry and anxiety on account of the death of her husband and legal entanglements of his estate. Three years before the present attacks began, she found that in playing the piano her forearms became numb with a sense of tension, which was so uncomfortable and so persistent in its occurrence that piano-playing had to be abandoned. Fifteen years ago the first attacks of angina began. The pain begins between the shoulder-blades and runs about both sides of the thorax to the precordial area, and, when severe, runs down the inner side of both forearms. It is particularly severe in the right arm. These attacks of pain are accompanied by a sense of cardiac palpitation and eructations of gas from the stomach. The eructations of gas are not, however, followed by any sense of relief. After the attacks there is a peculiar feeling of numbness in the hands, particularly in the right hand. Both hands are then hypersensitive to both heat and cold. There is never any dyspnea on exertion, although exertion will bring on the attacks of pain. Eating a large meal will produce the attacks, and often the patient is wakened out of a sound sleep by the pain. The patient's appetite is good, the bowels are slightly constipated.

The urine showed no indications of any renal involvement. There were no signs of any kind brought out on physical examination which betrayed any alteration of reflexes or any change in afferent or efferent nervous impulses. All diseases of the brain and cord or peripheral nerves could be excluded. The lungs, mediastinum, liver, spleen and alimentary tract revealed no signs of disease. The eye-grounds were normal.

The left border of the heart in the fifth interspace was 12 cm. to the left of the median line and the right border of the heart at the third interspace was 3 cm. to the right of the median line. The upper border of the heart was at the top of the third rib in the left parasternal line. The left border of the heart was not sensitive to direct percussion. I mention this because we very commonly find in the early stages of cardiovascular disease, when the myocardium begins to show some sign of distress, that the external border of the heart is marked by tenderness to direct percussion. This tenderness is not present in cardiac enlargement due to Basedow's disease, for in the early stages of Basedow's disease the cardiac enlargement is not associated with any impairment in the mass movement of blood. This tenderness is not present in cardiac enlargements of long standing, when due to either valvular or myocardial disease.

In our case, therefore, there was not a single sign of any kind which would indicate any impairment in the mass movement of blood. When the patient entered the hospital, there was perfect consistency between the feel of the femoral artery and the blood-pressure as registered by the sphygmomanometer applied to the arm.

The maximum systolic blood-pressure on entrance was 235 mm. Hg. The patient remarked that she had caused the bursting of every blood-pressure apparatus which had been used on her. The blood-pressure was first measured about two years ago and was then found to be 350 mm. Hg. The same high record was made by several physicians at different times. The highest pressure found during the patient's three weeks' stay in the hospital was 245 mm. Hg. Relief from the attacks of angina has invariably followed immediately after taking 1/100 grain of nitroglycerin. The pains were so severe and relief followed so promptly from the use of nitroglycerin (which was always at hand) that we never had the opportunity to measure the blood-pressure during an attack, but I think it is fair to assume there was a marked rise in blood-pressure during the attacks of angina.

On February 18 the following experiment was made with nitroglycerin to see how much the blood-pressure could be lowered with nitroglycerin. A 1 per cent. alcoholic solution was used and the liquid was dropped on the tongue from a medicine-dropper.

Time. P. M.	Dose, Drops.	Pulse.	mm. Hg B.P.
9:30	1	75	215
9:32	1	72	..
9:34	1	76	224
9:36	1	81	...
9:38	1	81	238
9:40	1	84	...
9:42	1	84	234
9:44	1	81	...
9:46	1	81	208
9:48	2	81	...
9:50	2	78	162

In twenty minutes there were thirteen drops of a 1 per cent. solution of nitroglycerin given which was well tolerated. Nothing more than a slight sense of fulness in the head was complained of. The patient had the best night's sleep she had had for many weeks. The blood-pressure in the arm was never again as low as 162. This shows, however, that sclerosis of the artery could not have been a factor in resistance to the pneumatic cuff. There was no palpable thickening of any of the accessible arteries. An ophthalmic examination revealed no abnormality in the retinal nerve-heads or retinal vessels.

As soon as it was once learned that the blood-pressure could be reduced by the use of trinitrin without causing discomfort or any untoward symptoms, one drop of the 1 per cent. solution was given every hour and the dose was gradually increased in the course of three days to 5 drops every hour. The blood-pressure chart showed no alteration. The pressure was taken from the right arm every four hours. I then palpated the femoral artery and found the pressure nearly normal in that artery. The cuff was then applied above the ankle of the right side and the dorsalis pedis artery used for control. The artery was of fair size and quite as suitable for the purpose as the radial. Here the maximum pressure was only 160 mm. Hg. The blood-pressure apparatus nearly always gives a higher registration when applied to the leg, so it seems fair to assume that this measurement would be consistent with an arm measurement in the average normal subject of about 20 or 30 mm. less. The cuff was then applied to the left arm and the pressure measured there was slightly less than in the right. Here is a patient with a history of vasomotor angina with blood-pressure of 245 in the arms and 160 in the legs after trinitrin had been given in large doses. The pressure in the femoral arteries prior to the administration of nitroglycerin was consistent with the pressure in the arms; now, however, the femoral and brachial arterial pulses did not feel as though they belonged to the same person.

If it is possible to have widely differing blood-pressures in branches of the aortic system, then it is apparent why this patient, whose brachial pressure was so high for two years (of which we know), revealed no signs of distress in the heart. If the splanchnic arterial distribution constantly maintained the same low pressure, compared with the accessible arteries, as the femoral

artery now shows, compared with the brachial, then it is quite apparent that the brachial pressure did not habitually represent the pressure in the thoracic aorta and for this reason the myocardium showed no signs of distress after years of supposedly high pressure.

Another explanation of myocardial preservation under such conditions was suggested by the history of another patient who was first seen in 1905.

CASE 2.—The patient, a man, then 35 years old, had marked cardiac hypertrophy, high arterial pressure and pulmonary edema. Rest in bed, milk diet, warm baths and nitroglycerin gave him great relief. After a month of this treatment he left the hospital and was not seen again until four and a half years later, in 1909, when he again presented himself with the same symptoms, although not quite so severe as four and a half years before. It was then learned that he had continued uninterruptedly at his vocation of barkeeper, that he had been quite comfortable during all that period, and that he had taken nitroglycerin for only a few weeks after his first stay in the hospital. We then found that his blood-pressure on waking in the morning was only 130 mm. Hg, and in half an hour it would again be 190 mm. Hg, where it obstinately remained in spite of the use of nitroglycerin. There was never any disparity between the feel of the femoral pulse and the brachial pulse in this man, but the pressure in the leg was not taken with the instrument. It was found later that if the blood-pressure was taken immediately when the patient awoke from a short nap of thirty minutes, it was only 130 and regained its original point of 190 about one-half hour after waking. These observations were made repeatedly in this man on waking in the morning and on waking after short naps and the results were always the same.

This patient, therefore, had an arterial hypertonus when awake, and vascular relaxation when asleep. What preserved him so long against myocardial exhaustion was the slumber relaxation. This amounts to a very great compensatory measure in a man who gets nine hours' sleep every day. To return to the first patient, however, it was found that she did not at any time have a lowered blood-pressure on waking; and furthermore her attacks of angina often came on during sleep; consequently, we can eliminate slumber relaxation as a compensatory measure in her case.

The other problem which presents itself is whether the patient really had such widely differing pressures in the femoral and brachial arteries or whether the hypertonus of the artery offered the resistance to the pneumatic cuff. Were we really measuring resistance of a hypertonic arterial wall and not endovascular blood-pressure? Three resident physicians at Lakeside and I tried exposing an arm to extreme cold to see if the pressure in the exposed arm differed from the pressure in the other arm which was not exposed to cold. The experiment was made in the following manner:

The person under observation lay flat on a table with a trough of ice-water at his side. A blood-pressure apparatus was applied to the left arm and to the right arm at the same time and the pressure recorded. Then one arm was laid in the ice-water and, when the arm became painful from extreme cold, the pressures in both arms were recorded. In the other three men there was no essential change, but in my own case there was a marked rise in pressure in the cold arm and no rise in the other arm. The pressure in my right arm was 136 and in the left arm 126. Then the right arm was laid in the ice-water so that the upper arm as high as the top of the cuff was covered. When the arm became very painful, the pressure in both arms was measured. The left arm recorded 126 as before but the maximum pressure in the right arm was 158, a rise of 22. There could have been no error in palpating the radial artery, because I could tell the instant the least trickle of blood passed beyond the cuff by the feel of the water-hammer jet, which could be perceived equally well when the arm was in and out of the water. The instant the arm was lifted out of the water and the pain ceased, the pressure was again lowered to the original point of 136.

On another occasion I tested my blood-pressure much in the same manner, but under different conditions. The early part of the day from 9 to 11.30 a. m. was occupied in making a ward visit, from 12 to 2 p. m. was occupied with writing, then a moderate luncheon, at which two cups of tea were drunk, was followed by smoking one cigar. An hour later the experiment was made. The pulse-rate was 72 per minute. A blood-pressure apparatus was applied to each arm and the records were made by two resident physicians. One man watched each apparatus and recorded their results independently of one another. Before the right arm was put in the ice-water the maximum systolic and diastolic pressures, respectively, were 170 and 133 in the right arm and 168 and 132 in the left arm. The femoral artery was then palpated by Drs. McLaughlin and Boyer (who are experienced in estimating blood-pressure) and both agreed that, when the one arm was put in cold water, a decided rise in pressure was perceptible, which was consistent with the records made by the instrument. Several trials showed a rise to 180 in the chilled arm. It does not seem likely that the rise in pressure was due to pain, for, though the three other men experienced quite as much pain, their pressures did not rise after exposure to cold. On both occasions when the observations were made, the exposures to cold were made repeatedly. On the first occasion there was a rise only in the chilled arm and none in the other arm. The second trial showed a consistent rise in all accessible arteries. The rise was both in the systolic and diastolic phases. The disparity between the pressure in different arteries in the case of one patient was apparent only after trinitrin was used in considerable dosage, but this disparity was confirmed by repeated examinations during a period of a week. The differing results in my own experiments with the cold water were just as certainly established by repeated measurements.

Whether there were really different endovascular pressures in the several arteries, or different degrees of hypertonus in the arterial walls which gave the results, the deduction remains the same, namely, that the blood-pressure apparatus applied to accessible arteries does not give infallible information as to the aortic blood-pressure and, as a consequence, it is not safe to rely on routine measurements from the arm as a guide to the employment of vasodilators in treating patients with high arterial pressure.

The maximum systolic and minimum diastolic pressures may be within the normal limits and still the mass movement of blood be much impaired. Recently I observed a ward patient at Lakeside Hospital who had pronounced cardiac dilatation and tricuspid insufficiency, as evidenced by dilated jugular veins with a systolic centrifugal pulse, which was plainly seen in the jugular veins and was distinctly palpable in the liver, which was enlarged a hand's breadth below the costal border. The patient had general edema and very marked cyanosis and orthopnea. The pulse-rate was 90, the maximum systolic pressure in the arm was 135 and the minimum diastolic pressure 96. That there was a severe alteration in the mass movement of blood in this patient was clear enough from the cyanosis, dyspnea, venous and hepatic pulsations and edema of the lower extremities.

Although the maximum systolic and minimum diastolic pressures were equal to those we often find in patients with a good mass movement of blood, palpation of the arteries revealed an artery filled with blood during the diastolic phase. There was, then, an increased resistance in the peripheral arterial distribution and stasis in the centrifugal arterial stream without an elevation in either the systolic or diastolic pressure. With

these arterial conditions, then, there must be a small ventricular output with each ventricular systole. A very small ventricular output is sufficient to elevate the pressure to moderate height (135 mm. Hg) in an arterial system which is full of blood at a moderate pressure during the cardiac diastole. This patient's myocardium was the factor which was chiefly at fault in the circulatory system. As a rule, patients with an increased peripheral resistance in the arterial system have high systolic and diastolic pressures, but, when the myocardium becomes inefficient at the same time that the increased arterial resistance develops, the systolic and diastolic pressures remain the same as in health, but the mass movement or minute volume of blood is greatly diminished.

If reliance is placed on the blood-pressure during systole and diastole, as a guide to the state of the circulation one can be greatly misled, for the pressure measurements are of value only when they are contemplated in the light of other evidence, which must be gained by observation.

DETERMINATION OF MINIMUM DIASTOLIC PRESSURE BY BLOOD-PRESSURE APPARATUS

Finally, I wish briefly to discuss the blood-pressure apparatus as a means of determining the minimum diastolic pressure. The two methods employed are (1) to find the pressure-point in the pneumatic cuff at which the mercury column has a maximum excursion, and (2) to find the point at which the sound heard distally to the cuff, suddenly diminishes in intensity, as the pressure in the cuff is gradually lowered. The first method is much less satisfactory than the second method. It is the second method which has some points of interest in the physics of the arterial circulation. If the brachial artery is compressed against the inner surface of the humerus, and the bell of a stethoscope is applied over the artery a short distance below the point of compression, there will be, of course, no sound audible so long as the artery is obliterated during cardiac systole. On diminishing the pressure so that a jet of blood escapes under the compressing finger, there will be a murmur and sound audible during the heart's systole, but the murmur predominates and often the sound is scarcely perceptible with the murmur. If a pneumatic cuff is applied and the pressure in the cuff is diminished so that a jet of blood escapes under the cuff during systole, but not during diastole of the heart, the relative intensities of murmur and sound are reversed. The sound, which is very like the "pistol-shot" tone, is loud and the murmur is faint. In many cases the murmur is not audible and only the pistol-shot tone is heard. If the femoral artery is compressed at the pubes, the so-called stenosis murmur is very loud and the pistol-shot tone is not heard at all. If one compresses the femoral artery, however, and then very cautiously relaxes the pressure so as to permit the very smallest possible jet to escape under the finger a pistol-shot tone is heard unaccompanied by a murmur, but, unlike the case with the brachial artery, when a larger jet is allowed to escape by relaxing the pressure a very little more a loud murmur is heard without the pistol shot tone. The sharply defined pistol-shot tone is heard only a short distance below the cuff or compressing finger in all instances.

The conformation of the jet seems to determine whether a murmur or pistol-shot tone will predominate. Flat compression of the artery gives, in all probability, a different contour to the narrowed lumen from that procured by the circular pneumatic constriction. In the latter case the compression is applied in a number of different radii, whereas, in the former case, only a narrowed chink can be formed. Probably, as the constricted lumen more nearly assumes a circular contour, the water-hammer effect is more in evidence and the murmur is wanting. When the pneumatic cuff is used, in many cases only a pistol-shot tone is heard and no trace of a murmur is heard. When the brachial artery is compressed by the finger, a murmur is always audible and predominates, whereas the pistol-shot tone is comparatively faint.

Another point about this pistol-shot tone is of interest. Suppose we have a maximum blood-pressure of 150 and a minimum pressure of 100. The pistol-shot tone below the constricting band will have attained its maximum, when the cuff pressure is at about 145, and will remain at the same intensity until the pressure in the cuff is just high enough to prevent the escape of fluid during the heart's diastole. Then when the pressure in the cuff is no longer high enough to shut off the centrifugal flow during diastole of the heart, the sound becomes faint, so that the pistol-shot tone will grow faint immediately when the cuff pressure goes below 100. The pistol-shot tone is due to the escaping jet of blood and not at all to the excursion of the collapsed arterial wall below the cuff. As the pressure in the cuff is diminished, the arterial lumen under the cuff increases; consequently, with a diminishing pressure in the pneumatic cuff the volume of the jet increases, but the velocity will diminish. Therefore, the mass times the velocity in the jet remains constant, until a point is reached at which a null pressure in the artery distal to the cuff no longer exists during cardiac diastole, and then the difference in pressure, above and below the cuff, is no longer great enough to produce the water-hammer effect.

I attempted to reproduce these phenomena by inserting a cannula in the subclavian artery of a fresh cadaver. The radial artery was opened and the cuff of a blood-pressure apparatus applied to the arm. Liquids of varying specific gravities were pumped through the artery, when the pressure in the pneumatic cuff was at varying points from 120 to 300 mm. Hg, but the pistol-shot tone could not be produced and the pulse of the jet of liquid, as it shot beyond the constricting cuff, was very different from the pulse of the jet of blood during life. Instead of the high velocity with which the jet of blood during life shoots under the cuff, there was a lazy rise and fall in the pulse below the cuff. No pistol-shot tone was heard; nothing but a murmur was audible with all the pressures and kinds of impulses we were able to give the jet of liquid. It would evidently require a nicely constructed power-pump to produce the same kind of jet which occurs in the blood-stream during life.

When air instead of liquid was pumped through the artery, the velocity of the jet was of course much greater and the pistol-shot tone immediately below the cuff was very loud. When a bandage was drawn about the forearm at the same time that air was pumped through the artery, the intensity of the pistol-shot tone diminished, as very slight pressure was applied by the constricting bandage. As soon as the pressure of air in the artery between the cuff and the bandage no longer sank to zero between the impulses from the pump, the pistol-shot tone diminished in intensity.

When the brachial artery immediately below the cuff was exposed and opened and traction applied by means of two forceps so as to eliminate the factor of excursion of the arterial wall, the pistol-shot tone below the cuff remained the same as before.

CONCLUSION

I do not wish to discourage the use of the blood-pressure apparatus. It is a very valuable instrument, but its chief value consists in teaching us how to palpate the arterial pulse. No instrument can take the place of the finger, nor can any instrument teach as much about the pulse as can be learned by palpation.

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ABSTRACT OF DISCUSSION

DR. JUDSON DALAND, Philadelphia: We owe Dr. Hoover a debt of gratitude for calling attention so plainly and definitely to the facts, not generally remembered, that the blood pressure varies at different times of the day, and more particularly, in certain cases, and that there is a difference between the blood pressure in the waking and sleeping states. Again, the mere application of the pneumatic cuff in certain neurotic subjects often increases the blood pressure as much sometimes as 30 or 40 mms. Often the fainting patient will permit of a true reading. Observation systematically made will show in many instances a temporarily extraordinary increase in the blood pressure. Therefore, it seems to me that we should bear in mind that variations occur in many cases. The case reported by Dr. Hoover, so far as I know, is a very unusual one; I have no recollection of any such experience in my practice, nor do I recollect any such extraordinary disparity between the blood pressures of the inferior and superior extremities. So far as the determination of the blood pressure by means of the finger applied to the radial artery is concerned, I have found that in about three-quarters of the cases I can estimate approximately the blood pressure; but in the remaining 25 per cent. I am at sea. We should thank Dr. Hoover for calling our attention to the femoral artery where manifestly there is offered a physical condition vastly superior to the radial artery.

THE PATHOLOGY OF MASTOIDITIS AS REVEALED BY THE *X*-RAY *

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The *x*-ray study of the mastoid region, which was begun in March, 1908, has undergone a slow but gratifying metamorphosis. Undertaken with grave doubts as to its practical value, it has developed into a method which rivals in its accuracy other recognized methods of physical examination.

At the inception of the work, it promised at best to show the anatomy and the grosser chronic changes in the mastoid region. Then the graver acute changes were registered on the skiagram, and later it was found that the milder acute mastoid affections yielded roentgenologic evidence of their presence. Within the last few months it was discovered that in acute otitis media without clinical signs of mastoid involvement, the *x*-ray would often show clouding and filling up of the mastoid cells just back of the antrum, which changes may either recede or progress as the patient either recovers, or goes on to what is clinically termed mastoiditis. The *x*-ray method is presented then as a method of studying *intra vitam* the gross pathology of the mastoid.

A correct roentgenologic technic is, of course, the *sine qua non* in this work, and all conclusions should be based upon technically good plates. The method employed for correctly skiagraphing the mastoids was presented before this section one year ago.[1] Further details of the *x*-ray technic were outlined by me in a previous paper[2] and need not be repeated here. In no instance has a technically good plate failed to give valuable and accurate information. Barring those uncommon cases in which the cortex over the mastoid is excessively thick, or in which the mastoid cells are poorly developed, the *x*-ray method should in every case reveal in a gross way the pathologic status of the mastoid process.

The question of excessive distortion of the relations of the mastoid as a result of the obliquity of the rays was answered by making a series of tests on the dried skull. Lead markers were placed on the tegmen, groove for lateral sinus, and mastoid tip, and measurements made from the skiagraph were compared with the actual distances. In no instance did the discrepancy exceed 3 mm., which difference for practical purposes may be disregarded.

My interpretation of the skiagram is always based on a comparison of the diseased with the opposite normal mastoid. After repeated comparisons, in normal individuals, in no case did I find essential differences between the two normal mastoids of the opposite sides. While there may be variations in the size, number and arrangement of the cells of the two sides, the mastoids as a whole were closely similar in type. That is, if there is a pneumatic mastoid on one side there will be a pneumatic mastoid on the other, or if the one mastoid is of the diploetic type the opposite one will be of the same type. Plageman says "On a basis of 85 skiagrams of normal skulls, we find that as a rule the two mastoid processes of healthy individuals are almost identical." Where both sides are diseased more difficulty is encountered in reading the plates, but after a study of many plates a fairly accurate interpretation may be made of a single plate without a comparison with its fellow of the opposite side.

Previous inflammation in a mastoid usually leaves permanent alterations in the bone, either in the form of more or less extensive absorption of the mastoid process or sclerosis of same, and if this inflammation occurs in early life the development of the mastoid may be so retarded as to result in a diploetic or even sclerotic type. Therefore, in interpreting mastoid plates the previous aural history must be ascertained.

On the mastoid skiagrams of children under 10 years the mastoid appears entirely spongy or diploetic, there are few visible cells, and the tip is undeveloped. The tip at this time consists simply of an inner and outer table, with little cancellous bone between, and shows little structure on the skiagram. From the age of 10 to 15 the mastoid takes on the pneumatic characteristics; large cells appear and grow downward toward the tip, its diploetic structure finally giving way to the more or less pneumatic adult type. The development of the mastoid may be beautifully demonstrated by a series of successive skiagrams.

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* Read in the Section on Laryngology and Otology of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, 1910.

1. Iglauer, S.: The Clinical Value of Radiography of the Mastoid Region, THE JOURNAL A. M. A., Sept. 25, 1909, p. 1005.
2. Am. Quart. Roentgenol., December, 1909, No. 1, 11.

In order to study the mastoid relations more graphically, stereoscopic skiagrams may be made. For this purpose, I have devised a small stereoscopic platform by means of which the two stereoscopic exposures may be made on a 5 by 7 plate. When developed and dried this plate may be placed directly without printing or reduction in a cheap parlor stereoscope and viewed by transmitted light. This method has not been used as a routine, because of the fact that four exposures (two for each mastoid) are required. A reluctance to make repeated exposures has interfered also in following the clinical cases at various stages from onset to cure. While the danger of the temporary Roentgen alopecia is a remote one, even though the exposures be repeated, provided an aluminum and leather filter be used, it was thought best not to take the chance of embarrassing the work at this time by any such untoward after-effects. Therefore, in most of the patients examined but one exposure of each side was made. Just one caution should be given in regard to the character of tube best suited to this work. The lowest or softest tube possible should be employed. The higher tubes give crisper and more beautiful pictures, but when we consider the small size of the mastoid cells and the fact that we are attempting to show all the smallest septa and contents of these cells, those tubes which give beautiful bone detail of the heavy cranial bones will often fail to show the slightest changes in density in the mastoid region.

CLASSIFICATION OF PATHOLOGIC CHANGES

The pathologic changes which may be noted on a skiagram may be tabulated as follows:

1. Slight haziness of cell spaces or complete filling of same with something denser than air. These changes represent clinically otitis media with slight mastoid involvement and the milder forms of mastoiditis. The something which fills the cells is in all probability serum. To show these slight changes the skiagram must be made with a soft tube and slightly underexposed.

2. Marked clouding of cell spaces with loss of distinctness and partial destruction of cell walls. Clinically these changes are found in the more severe grades of mastoiditis with pus formation and bone softening.

3. More or less complete loss of structure of the mastoid process ocurring (a) either in the form of localized abscess formation, or (b) as is often seen in the subacute cases in the form of diffuse loss of structure, indicating advanced necrosis of the entire mastoid process.

4. Increased bone density of the mastoid process with (a) partial or complete obliteration of cells and (b) with or without bone defects. This class represents the chronic sclerosed cases.

These changes will be discussed in the reverse order, the order in which they are recognized.

CHRONIC MASTOIDITIS

The first report of this work was based entirely on the examination of the chronic cases. The ease with which chronic changes can be shown on the skiagram offers a method of determining in any case of chronic otorrhea the gross pathologic condition of the mastoid process. In those cases in which the cause of the continued discharge cannot be determined by the usual methods the skiagram may give the desired information by showing the extent of the sclerosis on the one hand or gross bone defects on the other.

The skiagraphic appearance in these cases is a thickening and obliteration of cells. In older cases the entire mastoid process appears dense and structureless, giving no indication of the presence of cells. From my experience it would appear that this extensive sclerosis occurs frequently after mastoiditis of a mild and not necessarily long-continued type, since the sclerosing process is a healing process. Interesting to note is the fact that, in the examination of supposedly normal cases for purposes of study, every now and then a markedly sclerosed and often undersized mastoid process would be found, and no history of previous ear trouble could be elicited from the patient. These undersized sclerotic types probably represent a sclerosis, partial absorption or retardation of mastoid development, consequent on a forgotten otitis media of early childhood. Aside from these occasional exceptions in all of the markedly sclerosed cases the patients examined had symptoms in the form of intermittent otorrhea. To illustrate different phases several cases will be cited briefly.

CASE 1.—*Sclerosis.*—A. V., aged 16, presented intermittent discharge from the left ear dating from an attack of acute otitis media three years back. Examination revealed a thickened drum with a small perforation in the antero-inferior quadrant. *X*-ray examination showed a sclerotic mastoid on the left side, with very little evidence of cellular structure. Subsequent operation verified the *x*-ray findings. This history is typical of a majority of chronic cases encountered.

CASE 2.—*Sclerosis with Bone Defect.*—J. Z., Italian, was admitted to the Cincinnati Hospital because of some pain and tenderness over the mastoid. Previous history could not be obtained, except that the affected ear had discharged for some time. Examination of the canal revealed changes associated with chronic middle-ear suppuration. An *x*-ray examination of the mastoids showed no cells on the affected side. Instead, the bone seemed to be hollowed out just back of the antrum. On operation, no cells were found, but a large bone defect in a small sclerotic mastoid.

CASE 3.—*Subacute Case with Bone Softening.*—This is a subacute rather than a chronic case, but is included here because the plate showed typical bone defects in a thickened mastoid, such as might be encountered in the more chronic cases: Mr. C., aged 35, came in from one of the surrounding towns because of continued discharge and pain over the mastoid dating back seven weeks. The case had received practically no treatment. Examination showed a perforation in the anterior inferior quadrant. No bulging of the canal. Temperature was 99.5 in the evening, normal in the morning. Pain was marked especially at tip. The patient was referred to me for *x*-ray examination, which revealed an apparently thickened and structureless mastoid except for several irregular areas of apparently more necrotic bone which seemed to honey-comb the mastoid. Operation the following day substantiated the diagnosis in every detail.

SEVERE ACUTE MASTOIDITIS

Every case of severe acute mastoiditis has given distinct evidence on the skiagram. The changes varied from filling of the mastoid cells with something other than air (serum, pus or granulations), with indistinctness and partial disappearance of cell outlines, to circumscribed abscess formation or diffuse loss of structure of the mastoid.

CASE 4.—Mrs. S. gave a history of a running ear following an attack of influenza. Discharge continued two weeks and then stopped. Two weeks later, or four weeks after the onset, the patient came under medical observation because of pain over the mastoid, especially right. Examination revealed a thickened drum, no discharge, no perforation, marked tenderness over mastoid, but no redness or swelling. Temperature was 99 to 100; *x*-ray examination revealed a hazy mastoid whose cells were no longer air-filled and septa partially broken down. Operation the day following the *x*-ray examination verified the skiagram.

CASE 5.—Miss W., aged 25, had had influenza three weeks previously with a running ear, but without pain or tenderness over the mastoid. Discharge continued for three weeks, and patient finally sought medical attention because of an increasing malaise. Examination revealed a large perforation in posterior part of drum, with scant or no discharge. There was no swelling or redness over the mastoid, but marked tenderness on deep pressure over antrum, no fever. *X*-ray examination revealed a small abscess in the mastoid about the size of a hazel-nut. The rest of the mastoid appeared hazy and indistinct. Subsequent operation verified this finding in every detail.

The following case is typical of a number of cases observed from the onset, in which there were definite signs of severe mastoid involvement, but in which the operative indications were not clear. Operative interference is often delayed in these cases awaiting a spontaneous resolution. The *x*-ray plate showing the amount of destruction may be a deciding factor.

CASE 6.—Miss H., a nurse at Cincinnati General Hospital, aged 30, developed, incident to influenza, intense pain in the ear, which in a few hours was followed by rupture of the drum, and a profuse bloody discharge. Three days later the staff otologist was called to see her because of pain and tenderness over the mastoid. He found a small perforation and enlarged it by incision. Tenderness and pain abated, and it was thought that recovery would follow in a few days. Seven days later there was a recurrence of the pain and paracentesis of the drum was again performed. The pain and tenderness now persisted in moderate degree, and a week later I was asked to make a skiagram. The skiagram showed absolutely positive evidence of a breaking down of the entire mastoid, and the operation the following day, almost three weeks after the onset, verified the *x*-ray finding.

MILD ACUTE MASTOIDITIS

In the study of the milder acute cases an interesting problem presented itself. By the milder cases is meant those cases in which there are distinct demonstrable changes in the mastoid but in which there is little or none of the gross destruction seen in the more severe cases. These cases may or may not progress to spontaneous recovery. The first change is that of fluid-filled cells. That is, the cell-spaces, instead of standing out sharply and clear, show by comparison with the opposite side that the air is displaced by a more solid substance, which may be serum, pus or granulations, or all three combined. The cell walls are fairly distinct and not broken down. This appearance of fluid-filled instead of air-filled cells is very characteristic of this stage; and in the attempt to draw operative indications from the plate the question as to how much bone change in the mastoid may occur without precluding spontaneous recovery, that is, what amount of skiagraphic bone change makes operation imperative, presented itself. Of course, I did not attempt to decide such a weighty problem. In discussion the fact that each text-book and each specialist has individual ideas regarding the pathology of acute mastoiditis was somewhat confusing. Those of the conservative school cite many instances of clinically severe mastoiditis which recover under the expectant treatment, whereas those of more radical tendencies advise early operative interference when fairly positive clinical evidence of mastoid involvement is at hand. The thought at once suggests itself whether it would not be possible by means of the *x*-ray to decide this point, and by a comparative *x*-ray study of a large series of cases to determine what amount of bone destruction makes operative interference imperative, if, indeed, the question can be settled at all. Although my series of cases is far too small and too incompletely studied to warrant any definite conclusions, yet I adhere to the following tentative rule: If in an acute case the skiagram shows fluid-filled cells with little or no breaking down of cell walls, an expectant line of treatment is suggested, whereas, if the bone destruction is definite and considerable, operation is recommended.

The following two cases are typical of this milder type of mastoiditis:

CASE 7.—Mrs. E., aged 35, had for ten days suffered with pain in the ear. Examination revealed in addition to inflamed drum, pain and tenderness over the mastoid. There was some fever, 100° in evening 99.5° in morning. The drum was incised but symptoms continued a week unabated. An *x*-ray examination made at this time revealed the mastoid cells fluid-filled but little or no bone change. After two weeks, discharge gradually ceased and mastoid symptoms abated. Drum returned to normal, pain and fever disappeared, whispered voice heard at 12 feet. A second *x*-ray examination made two weeks later showed the affected mastoid apparently normal, the cells containing air.

CASE 8.—Mrs. M., aged 33, suffered severe pain in ear following an acute rhinitis. On examination, drum was bulging, covered with hemorrhagic blebs, mastoid tender over antrum. Drum was lanced and few drops of serum exuded followed by sero-bloody discharge which continued three days, and suddenly stopped. Pain returned. Drum was again incised, and mucoserous discharge continued. Marked tenderness was present over mastoid and antrum, extending toward tip, but there was no fever. After several days discharge again stopped, and buzzing and throbbing pain was complained of. *X*-ray examination at this stage revealed a haziness of the cells just back of the mastoid antrum, but not extending over the rest of the mastoid. The slight changes seen in the plate did not seem to warrant any active interference. From this time the case went on to recovery and a second plate made (two weeks after the first one) showed apparently a restoration to the normal.

Several cases similar to these were encountered at the Cincinnati General Hospital, but as the patients treated here often insist on leaving before entirely recovered and are then lost track of, the ultimate outcome could not always be followed. Of great interest would be some statistics as to how frequently such mild mastoid involvement goes on to ultimate recovery, and what percentage become chronic or give rise to intercranial or other complications.

ACUTE OTITIS MEDIA

After this success in detecting the milder changes in the mastoid a small series of patients with acute otitis media without clinical signs of mastoiditis was examined. To my surprise more than 50 per cent. of the patients skiagraphed gave evidence on the plate of slight mastoid involvement. This involvement was indicated by a slight haziness of the cells just back of or surrounding the antrum. The bone contours were, however, sharp and distinct.

The *x*-ray study of the mastoid region is submitted at this time as an aid in the obscure cases. A more extended study of a large series of cases will, it is hoped, put this work on such a firm basis that in any case an *x*-ray examination may yield results so valuable as to justify the procedure.

But the work has a broader application. By repeated examinations the course of a single case may be studied. By extended studies over long intervals of months or years some new phases of the pathology of mastoiditis may be brought out. The ultimate results of acute and chronic mastoiditis in early childhood, their influence on the development of the mastoid and the auditory func-

tion in later life, the final results of those types of mastoiditis in which the patients apparently recover without operation, and the relation of mastoid sclerosis to the capsule and functions of the internal ear, are problems on which systematic *x*-ray work may possibly throw some light. As a preliminary to such studies involving repeated exposures, it must first be determined at what intervals and how many exposures may be safely given without causing alopecia and what form of technic will best guard against it.

The cases of acute, subacute, and chronic otitis media in young children aged 1 to 10 presented such unique appearance on the skiagram as to warrant special consideration. It was my privilege to examine about ten patients of this kind, who presented no marked clinical signs of mastoid involvement. Almost without exception the mastoid showed changes varying from a slight haziness of cells in the earlier cases to more or less bone destruction in the more severe cases, while the chronic ones showed pronounced sclerosis. Owing to the small size of the cells and the immature development of the mastoid, the amount of bone change is often hard to determine in these cases. In every case, however, in which such haziness of the mastoid was evident if operation was subsequently performed, actual mastoid involvement was found, justifying operation. It would appear that in a majority of cases otitis media in early childhood is accompanied by distinct mastoid involvement. As mentioned above, the small size of the mastoid in these cases made it rather difficult to draw operative indications from the plate.

22 West Seventh Street.

ABSTRACT OF DISCUSSION

DR. HENRY HORN, San Francisco: Dr. Lange said that in about 50 per cent. of these cases of acute diseases there were some slight changes in the mastoid tip. That simply shows how accurate have been our clinical observations up to this time. There can be no question as to the value of the *x*-ray in the study of these conditions and in the study of accessory cavity disease, but the principal point is this: that it is essentially a matter for the expert *x*-ray man. It is out of the question for every physician, or even for every hospital to try it. An *x*-ray, especially of the accessory nasal cavities, must be sent to a man who has special expertness in this particular line of work. A man who makes a good pelvic or chest picture may not necessarily make a good plate in this work. Then, of course the enormous expense of the thing puts it exclusively in the hands of large clinics and makes it applicable here and there for the rich patient. As a clinical method of diagnosis it is valuable, but it is not yet one that can be used in general practice.

DR. CULLEN F. WELTY, San Francisco: This subject was up last year for discussion and I criticized it, as I am going to criticize it to-day for the following reasons: We have clearly defined indications for operative procedure in both acute and chronic mastoiditis; I would much rather depend on my judgment in an individual case, and possibly, I may say, do an unnecesary operation, than depend on any machine for making a diagnosis. I have operated in a few cases to my knowledge, in which probably the patients would have recovered without operation; at the same time I have not lost a single patient with acute mastoiditis and I maintain as an otologist that no such loss should occur. If we lean on this thing in one case and that thing in another we lose our individuality of judgment. We have all this work done for us and it makes us sleepy.

DR. F. E. AUTEN, Belleville, Ill.: I believe that the *x*-ray examination in mastoididtis is a valuable aid. It may be a little out of the reach of most of us but it should be used when available. I had recently a case in which the patient did not want to have the mastoid opened and I would have liked very much to have this means of diagnosis at that time.

DR. SYDNEY LANGE, Cincinnati: The presentation of a method of this kind before an audience that has not had the opportunity of seeing and studying the plates and comparing them with the clinical and operative findings may leave a doubt in the minds of some as to its practical value. I purposely refrain from showing any lantern-slides owing to inadequate facilities for darkening the room, but I have many of the original plates with me which I shall be pleased to demonstrate to those who may be interested.

While in the average case of mastoiditis, the clinical features may be clear enough, I am convinced after speaking with a number of otologists that operative indications are not always clear, and I believe that all recognized authorities have so expressed themselves. Politizer in his book makes the statement that the most extensive necrosis may occur in the mastoid without any of the usual signs being present. And I have seen a few such cases of mastoiditis in which there were indefinite general, cerebral or septic symptoms without the usual local signs of mastoiditis.

In one case presenting obscure septic symptoms the greater trochanter of the femur seemed to be the focus of infection. It was drilled into and nothing was found. The cause was a broken-down mastoid which did not declare itself in the usual way. I have not examined any case of thrombosis of the lateral sinus but I do not think that the thrombus would show on the *x*-ray plate.

CONTINUED SUBNORMAL TEMPERATURE IN INFANCY*

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The opportunity to observe and study a case of continued subnormal temperature in an infant, recently, has interested me in the subject.

On looking up the literature, however, one finds much written about fever and increase of temperature, but very little recorded or written on subnormal temperature. The text-books, also, usually dismiss the subject with a few lines or, perhaps, in the description of a disease, merely say that the temperature may be below normal.

Have we not, as physicians, been too prone to disregard those depressions of temperature below normal and to consider only the occurrence of fever as of clinical significance? We do this perhaps from indifference or because there seems no ready explanation of the hypothermia.

Cases of noticeably low temperature in adults appear to be recorded more often than do those of infants or children. Then too, the cases observed have been usually of some fatal illness and the hypothermia was marked just prior to death.

Munson[1] of the Craig Epileptic Colony reports eighteen cases of subnormal temperature, more or less continuous, in which three patients were children. All were epileptic and all died. Of the children, one was a girl of 7 who was both tuberculous and epileptic and had a temperature of 91 F. before death. In the other two children the temperature sank as low as 81 in one case and to 76 in the other, both of course fatal. J. H. Williams[2] reports a 5-months-old babe with tuberculous

* Read in the Section on Diseases of Children of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, 1910.

1. Munson: Some cases of Low Temperature, Arch. Int. Med., 1910, v. 120.
2. Williams, J. H.: Med. Rec., New York, 1898, p. 640.

meningitis in which for ten days preceding death the temperature was below normal, hovering around 94 and 96 and at one time going as low as 87. Dr. F. W. Loughran[3] reports a 6-weeks-old babe who died of septic infection. The last two days before death the temperature varied around 84 F. and even dropped as low as 80 F. These references were all that could be found of definitely recorded cases in children or infants.

Other observers agree, however, that the condition of low temperature is usually a serious one, and much more liable to be disastrous than a corresponding elevation above normal. Inquiry among my friends who also see many babies elicited the fact that temperature below normal is not so uncommon, but that the condition seldom lasts long and is almost always followed shortly by death. In other words the usual subnormal temperature is a terminal condition.

Suppose we now inquire what are the sources of heat, and how an even temperature is maintained in the human body. It is probably unnecessary to mention that physiologists agree that the origin of the body heat is the oxidation of the food materials taken in. Just where this oxidation takes place is not well understood. There is little doubt that the energy manifested by the activity and work of the muscles, both voluntary and involuntary, is an important factor in heat production. This heat is distributed by the fluids of the body to its various parts and members. Heat production, then, in the muscles is controlled by the nervous system and, correspondingly, heat loss is regulated by the vasomotor and by the respiratory nerves. All of these various acts of heat production and heat loss are undoubtedly under the control of the heat center in the brain, which constantly exercises its governing influence. Thus we have the condition of a steady, even body temperature most highly developed in man, who, of all the animals and in spite of environment, maintains in health a constant temperature which varies but a minute fraction day after day and year after year.

In infants, however, this fine regulation is far from perfect and is easily disturbed. Thus we find slight causes creating greater disturbances in the child than in the adult.

Let us consider what are the causes of continued depression of temperature. These may conveniently be grouped under four heads:

1. Insufficient heat production.
2. Excessive heat loss.
3. Disturbed heat regulation.
4. Diseases of metabolism.

Under the first heading, insufficient heat production, may be classed those cases due to starvation or stenosis, to infantile atrophy or athrepsia, to the condition of prematurity, to inanition and to inactivity. Under the second, excessive heat loss, we place those cases caused by loss of body fluids, as in severe diarrheas or hemorrhages, also perhaps certain skin diseases. Under the third head, disturbed heat regulation, are the cases occurring in disease of the heart and nervous system, those due to drugs, to unconsciousness and to intoxication. The fourth head includes certain diseases of metabolism such as anemia, diabetes, and myxedema.

The first group of causes, namely, starvation, atrophy, prematurity and inanition are perhaps more likely to affect young infants and are often the cause of subnormal temperature.

One can easily understand also, how the loss of a considerable amount of fluid from the body, as in diarrhea or hemorrhage would, at the same time, lower the body temperature. The diseases of the skin in which the temperature is lowered are sclerema neonatorum, large or excessive burns and perhaps, also, severe cases of pemphigus.

Among the drugs which cause a temperature below normal are the general anesthetics, such as ether and chloroform, also nicotin and morphin. Alcohol, contrary to former views, does not raise temperature but depresses it, as I shall show later. It acts thus because it increases heat loss by superficial vascular dilatation and diminishes heat production by limiting muscular activity. Possibly, also, the heat center is directly affected by alcohol.

There seems to be some relationship between consciousness in an individual and a steady temperature. For do we not often find a subnormal temperature after the use of general anesthetics and of hypnotics, and also in profound sleep or concussion of the brain, in severe collapse or in the last stages of a fatal disease? In myxedema it is not at all uncommon to find a subnormal temperature and this has also been observed in diabetes and severe anemia.

It is perhaps needless to emphasize the fact that great care must be used in taking the temperature in infants and also in recording it, so as to make the record accurate and valuable. In infants the rectal temperature is undoubtedly the most reliable and this was the method employed in the case here reported. The various temperature readings in this case were all taken and recorded by trained nurses accustomed to the work and when the figures seemed especially low, another trial was made with a different thermometer, so that I am quite sure the temperatures, here recorded, may be depended on.

REPORT OF CASE

The history of the case I desire to report was as follows:

The babe was a 3-months-old girl when she first came under observation. The father had poor health, was an alcoholic and died of delirium tremens two months before the babe was born. The mother was in good health and this was her first and only child. She worked up to within four days of the birth. Labor was not difficult, lasting only three hours.

The babe was never strong and was breast-fed only three weeks. Then began artificial feeding, first malted milk, later condensed milk. She did not take the food well and had to be fed with a spoon. The baby's birth weight was not known but at 1 month of age she weighed 5¾ pounds. She began to get thin when 6 weeks old and continued getting thinner until her admission to the hospital, when her weight was 4¼ pounds.

There was some gastro-intestinal indigestion on her entrance to the hospital, shown by occasional vomiting, undigested stools, etc. This, however, soon cleared up under a proper diet and daily colonic flushings.

The infant remained at the hospital for nearly five months, during which time the temperature was more or less continuously subnormal, on one day going as low as 89 F. and frequently reaching 92 and 93 F. It was the exception for the temperature to reach 98 or 99 F., and only a few times did it go above those figures. For one whole week it was below 96, varying for the most of that time from 92 to 94.

The babe was fed a mixture of fresh cow's milk and water, the caloric value regulated somewhat as to the child's weight. She was either too weak or had no desire to suck her food through the nipple, for most of the time she was fed by a spoon or through a stomach-tube. The stools showed usually that digestion was good. The weight increased very gradually from 4¼ pounds on admission to 5½ pounds when discharged.

The child may have been syphilitic but an inunction of mercurial ointment daily for two weeks made no permanent effect on the temperature curve.

3. Loughran, F. W.: Pediatrics, January, 1908.

As illustrating the harmful effects of alcohol in such cases, it may be of interest to mention that small amounts of whisky varying from twenty minims to two drams were given on six successive days when the temperature began to be low, with the expectation of raising it thereby. But, on the contrary, it fell to 92 and on the two days following remained continuously below 93. Later the whisky was tried again and from the sixty-fourth to the seventy-first day about one dram was given daily, when the temperature declined rapidly and, on the third day following, reached 89 F., the lowest observed.

External heat in the shape of hot-water bags was applied continuously for two weeks at first, without appreciable effect. A hot-water bath at a temperature of 105 F. was also tried daily for ten days, but with no permanent change noticed.

When the child was 7½ months old it left the hospital and has been lost track of; but it was apparently doing as well as usual, when it left, and was gaining slowly in weight, although the temperature was still the subnormal type.

The interesting question is, what the cause was of the continued low temperature in this case? I think it would come under the first heading in our classification, that of incomplete heat production. No doubt the condition of inanition had much to do with it. The inactivity also was a cause. The child was not active and playful as other healthy babes are, but would lie quietly in one position much of the time, making almost no disturbance and crying little. Although several months old it resembled the premature infant, because it had to be fed by hand; it was quiet and passive and lacked the life and vigor of a normal child.

The question has been raised whether or not there is anything in this condition analogous to the state of hibernation in animals. I find on looking it up that the hibernating state also is not fully explained or understood. Pembrey[4] says that during hibernation the temperature of so-called warm-blooded animals is much depressed resembling that of the cold-blooded animals; also that respiration and heart action almost stop and that absolutely no food is taken. There is an intermediate stage, however, when the animal is listless and inactive and with a body temperature below normal. In this condition its power of heat regulation resembles an immature mammal.

We cannot carry the analogy far, however, for the subnormal temperature and the inactivity are the only points of resemblance and, unlike the hibernating animal, this child's respiration and heart-beat were active and food was taken regularly.

My reasons for presenting this subject are, partly, the desire to place on record an unusual case and, partly, the hope that the discussion may bring out something further as to the causation and treatment of cases of subnormal temperature.

1230 East Sixty-third Street.

ABSTRACT OF DISCUSSION

DR. J. S. LEOPOLD, New York: I should like to ask Dr. Cheney how much the patient gained in weight during the period of observation? I have seen several of these cases of subnormal temperature in infants and the picture in this case seems to me to resemble very closely what is known in America as atrophy, and what Finkelstein calls "decomposition." There is loss of weight, subnormal temperature and at times collapse. The temperature usually becomes normal as soon as the weight curve remains stationary. Often subcutaneous injections of saline solution do good in these cases and bring the temperature up to normal.

DR. GODFREY R. PISEK, New York: I saw in consultation one of the cases the author cited. The case was one of infantile atrophy. The temperature was 84 F. I remember I had to get a dairy thermometer to take the temperature. In that case all manner of expedients were tried to increase the temperature, but they failed. Hot-water packs, hot colonic flushing all failed, and in forty-eight hours the child died. In this case the condition of subnormal temperature had probably existed and been unnoticed for several weeks. These cases can be accounted for by profound disturbances of metabolism.

DR. WILLIAM J. BUTLER, Chicago: I believe the doctor mentioned one case of tuberculous meningitis running a subnormal temperature. I think it is rather the exception to see a subnormal temperature in these cases, although it is often but little above normal. I recall seeing a case of what was apparently meningitis running a subnormal temperature. In that case the temperature was subnormal all of the time; about 96 F. was as low as as it went. There was dulness in the right apex. I thought it was either hemorrhage into the posterior fossa or a tuberculous meningitis with subnormal temperature. The middle ground was taken that it was possibly a combination of both, and the post-mortem showed tuberculous meningitis and hemorrhage into the cerebellum. In this case there was arteriosclerosis, with its associate heart changes, and struma of one suprarenal.

DR. FRANK GENGENBACH, Denver: What was the condition of the pulse, the result of examination of the heart and the appearance of the skin as regards cyanosis?

DR. H. W. CHENEY, Chicago: There was no loss of weight; the child made a gradual gain, weighing 5½ pounds when it left the hospital. As to the administration of some of the sodium salts, I think in another case I will try it, as they are said to cause a rise of temperature in infants. As to the heart action and condition of the skin, the pulse itself was about what would be normal for a child of that age. The skin was somewhat anemic, such as we can expect to find in an atrophic child like that, but there was no cyanosis. As to other measures, Dr. Coit says that he keeps these babies in a separate room with a temperature at 75 or 80 F. This baby was kept in a room with other children. Possibly an incubator might be tried with satisfaction.

4. In Schafer's Physiology.

IN MEMORIAM: WILHELM MEYER*

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My first words to-day must be words of thanks to the chairman of the Section on Laryngology and Otology of the American Medical Association, Dr. Chevalier Jackson, and to the other members of the committee for the honor they have shown me by inviting me to this session and asking me to read a paper here.

Permit me to say that it is a great and heartfelt pleasure for me to be among you and to meet so many confrères, whose names have for years been familiar to me; above all I appreciate the opportunity of seeing again the faces of old and faithful friends, though, alas! I miss some, who, having completed their appointed task, are now at rest.

It is, however, not without considerable hesitation that I have accepted your kind and gratifying invitation, for I have but little news to tell you with regard to our specialty—a specialty in which America occupies so prominent a position—but I feel that the attention paid by you was not only to myself but to the Danish school of laryngology founded by my late dear and honored master, Wilhelm Meyer. Such being the case, it may not seem inappropriate if, before speaking on more special and scientific topics, I give you a brief sketch of the life

* Read in the Section on Laryngology and Otology of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, 1910.

of that great otologist, to whom we are all so deeply indebted. Would the manner were worthy of the matter.

Wilhelm Meyer was born in 1824 in the Danish town of Fredericia, where his father was a regimental surgeon in the Danish army.

In 1826 the family removed to Glückstadt in Holstein. Here Meyer passed his childhood and youth until, in 1843, he entered the University of Copenhagen as a student. Meyer's mother came of an old Danish family and she remained faithful to her native land until her death; his father, who was born in Eckernförde in Holstein, and the remainder of the family were distinctly German in their sympathies. Accordingly, on his return to Glückstadt after completing his studies in Copenhagen, Meyer found the greater part of his family circle hostile to Denmark.

For some time he assisted his father in his private practice in Glückstadt and while thus engaged caught scarlet fever. It was during the period of his convalescence after this illness that the insurrection against Denmark broke out in Schleswig-Holstein (1848). Meyer's father, to whom he was tenderly attached, immediately left the Danish army and joined the Germans, and it was doubtless owing to his persuasion that his son was induced to enter the insurgent army as a surgeon, the attack of scarlet fever having prevented his return to Denmark at the outbreak of war. Later he was, however, a Dane with his whole heart, and, as I have often heard him assert with warmth, loved his native country truly.

As a student at the University of Copenhagen, where he took the highest honors attainable, Meyer had greatly distinguished himself, and on his return to Copenhagen after the war of 1848-50 he was offered a position as physician at the University Hospital by Professor Fenger. But so bitter was the feeling against him at that time that the students called a general meeting to protest against any public office being filled by one who had served in the insurgent army. Meyer was thus shut out forever from that brilliant university career which his talents would undoubtedly have procured him.

After this he travelled for some time, visiting various European universities, studying principally internal medicine and forming friendships with many foreign colleagues which were to prove of lifelong duration. In 1853 Meyer established himself as a general practitioner in Copenhagen. At first he had a hard struggle, but it was, as at all times during his career, in unremitting labor that he found both his compensation and refuge. During this period he produced his first scientific work on "Bread, Especially Rye Bread," an extensive essay, principally remarkable for its thoroughness—one of Meyer's most characteristic qualities. By degrees his circumstances improved, clients became more numerous, and in course of time he became one of the most sought-after of private practitioners in the whole of Copenhagen.

It is, however, as an otologist that Meyer will be remembered, and, as he has often told me, it was his pity for suffering humanity that first attracted him to this specialty. In his extensive practice he constantly came across patients whom deafness, buzzing and pains in the ear had rendered almost desperate. Such patients the majority of the medical men of that period were only too glad to get rid of as quickly as possible, considering the ear to be a *noli me tangere*, and for which no treatment was possible beyond the ordinary syringing with water or dropping in of warm milk and oil. In the hope of rendering some assistance to such unfortunates Meyer made an exhaustive study of the otologic literature then existing, and, purely self-taught, he became by degrees one of the greatest otologists of his time.

It was while engaged in the treatment of ear diseases that Meyer made the discovery of the adenoid growths, a discovery which for all time will be associated with his name. On Oct. 22, 1867, a young girl came to his surgery to be treated for deafness. Meyer observed that in this case nasal respiration was almost totally impossible, even after treatment for chornic catarrh of the nose and of the throat, which did not alleviate the deafness. He came to the conclusion that respiration was impeded by causes to be sought for in the nasopharynx, and he therefore explored this cavity by passing his finger up behind the soft palate—which, strange to say, no one had done previously—and he found the nasopharynx full of peculiar swollen growths, on the removal of which respiration became perferctly free and the hearing improved.

Meyer now began to suspect that these growths were the cause of the patient's deafness, and on examining other patients with ear trouble found in several the same conditions in the nasopharynx. He continued his researches with characteristic patience and energy, and in 1868 published his first article on the subject in the Danish medical paper *Hospitals-Tidende*. In 1869 Schmidt's *Jahrbücher* had a report on this article, and in 1870 Meyer published his further investigations in *Medicochirurgical Transactions*, without, however, attracting much attention to the subject.

In 1873 Meyer published his classical description of "Adenoid Growths, Their Etiology, Pathologic Anatomy, Symptomatology, Consequences and Treatment" in the *Archiv für Ohrenheilkunde*, earning now for his discovery universal recognition and for himself undying fame.

Besides shorter articles relating to his specialty Meyer wrote an excellent paper in the *Archiv für Ohrenheilkunde* demonstrating the importance of necrosis of the walls of the tympanic cavity as an etiologic factor in chronic suppuration of the middle ear.

Great as he was as a physician, Meyer as a man was even more worthy of admiration, uniting, as he did, the highest qualities of head and heart. A remarkable memory, strong power of observation and a keen critical faculty bore witness to his superior intellectual powers. The last he employed impartially and so ruthlessly was he wont to criticize his own literary productions that authorship cost him an immense expenditure of time and labor. He therefore wrote seldom and unwillingly. I may mention in this instance that he was eighteen months writing his paper on the history of otology in Schwartze's large "Handbuch der Obrenheilkunde," although it is only forty-eight pages in length. He first wrote a long and comprehensive essay, which he condensed and abbreviated twice before reducing it to the length desired for the "Handbuch." This little work is, however, justly esteemed a standard work, both on account of the learning it evinces and of the purity and polish of the style.

To these great intellectual powers Meyer added an almost unique industry and power of application. He was absolutely never idle. After a long and arduous day's work he would sit up far into the night reading not only medical works, but also works on all subjects which could interest the cultured mind: natural science, philosophy, literature, religion, etc. His knowledge was marvelous. He was an enthusiastic lover of music and

no mean performer on the piano. As an astronomer he was more than an amateur, and many a summer and winter night has he spent studying the heavens through his large telescope. Finally, I may mention those wonderful linguistic gifts, which, as some of you may remember, aroused such universal admiration among his colleagues at the International Medical Congress in Copenhagen in 1884.

But noblest of all was that warm and faithful heart, which, beating under a seemingly formal and cold exterior, endeared him to all who had the good fortune to become intimate with him. To his patients he was always the tender and self-sacrificing physician for whom no labor was too wearisome. He was a faithful friend whose value was especially felt in adverse fortunes, and, though severe toward himself, he was always exceptionally lenient in his judgment of others.

Meyer married, at the age of 46, Catherine Jane Emerson, a widow, by birth Baroness de Bretton, a relation of Sir Lytton Bulwer. By her he had three children, all of whom are living. His son is a medical man in Copenhagen.

It was during a journey in Italy, in 1885, undertaken after a severe attack of influenza, that Meyer, who was then 71 years old, contracted the typhoid fever which in the brief space of a week brought the seemingly healthy man to his grave. His body is interred in the beautiful island cemetery at Venice, a fitting resting-place for one who ever loved the sea and had made his much-loved summer home on the very verge of the beautiful Danish Sound, so that the music of the waves might be ever in his ears. Of all who loved him—and they were many—none but his wife, who died a few years later, and one daughter had the privilege of following him on that last solemn journey over the silent waters of the lagoons. A simple stone marks his last resting-place.

The medical profession, however, felt that to the memory of so distinguished a member honor was due, and at the initiative of Sir Felix Semon a monument was erected in Copenhagen by subscription from all parts of the world as a graceful tribute to one of whom I can truly say:

> He was a man, take him for all in all,
> I shall not look upon his like again.

OBSERVATIONS ON THE VOCAL CORDS IN ONE THOUSAND CASES OF GOITER*

JUSTUS MATTHEWS, M.D.
ROCHESTER, MINN.

My report is made on the observations of the vocal cords in 1,000 cases of goiter examined during the past two years. About 95 per cent. of the patients were operated on; all were examined before operation and reexamined after operation.

The anatomy of the larynx may be passed over with the exception of the motor nerve supply of its intrinsic muscles, which will be considered only with reference to liability to paralysis from pressure by enlargement of the thyroid gland.

The cricothyroid muscles, which are the tensors of the vocal cords, are supplied by the external branches of the superior laryngeal nerves from the pneumogastrics. These branches enter the muscles so high that only the largest lobes, which extend unusually high on the throat, can exert pressure on them. All the other muscles, including abductors, adductors and decreasors of tension, are supplied by the recurrent laryngeal nerves, which also arise from the pneumogastrics. These opposing muscles are supplied by different fibers which merely travel in the same nerve trunk, either set of which, or all together, in any degree may be subject to paralysis.

In this series of cases, as well as in the observations of others, it appears that the fibers supplying the abductor impulse to the posterior crico-arytenoid muscle are the most readily affected by pressure.

The right inferior laryngeal nerve arises at the level of the right subclavian artery and, winding around that vessel, passes upward in the groove at the right side of the trachea and esophagus and enters the larynx at the edge of the cricoid. The left inferior arises at the level of the arch of the aorta around which it passes and ascends on the left in the same manner as the right inferior nerve. The relation of the left laryngeal nerve to the aorta and its longer course account in part for the fact that it is more frequently affected by local pressure. Moreover, the position of the esophagus to the left of the median line forces the nerve to take a position more exposed to pressure, especially at the level of the thyroid gland.

EXAMINATION OF CASES

In the examination of 1,000 cases there were found seventeen with paretic affections of both cords, ninety-three of the right cord and 162 of the left, making a total of 289 partial or complete paralyses in 272 individuals. Total paralysis of the right cord occurred eighteen times; of the left, thirty times. Partial or complete abductor paralysis of the right occurred fifty times; of the left, eighty-three times. Partial loss of both motions of the right occurred thirty-eight times; of the left, sixty-two times. Bilateral tensor paralysis occurred in four cases.

In classifying the cases as to the size of the right, median and left lobes, a division was made for each one-half inch in diameter. It was found that paretic conditions of the right cord increased from 5.3 per cent. in 226 cases with small or non-palpable right lobes to 25 per cent. in eight cases with lobes over 5 inches in diameter. Abductor paralysis and partial paralysis of both movements increased more rapidly in goiters ranging up to 3½ inches in diameter, and then gave place to a relatively greater increase of total paralysis. The left cord showed 10 per cent. of paresis in the goiters with small left lobes, increasing to 47 per cent. with those over 5 inches in diameter. There was a still more marked tendency for all affected cords to become totally paralyzed as the lobes became larger. This occurred in five of fifteen cases. Even great enlargement of the median lobe alone was seldom associated with affections of the cords. Total paralysis occurred in but two such cases; bilateral tensor paralysis in four, and minor affections in nine. In nearly every division, except that of the largest lobes, abductor paralysis, either partial or complete, was the lesion most frequently seen.

Although the average frequency of symptoms of pressure on the nerves was directly proportional to the size of the lobes, there were exceptions. For example: paralysis occurred when the corresponding lobe was not palpable. On the contrary, in some cases which had the most tremendous enlargement of the lobes, displacing and distorting the larynx and the trachea, there was no apparent effect on the movements of the cords.

* Read in the Section on Laryngology and Otology of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, 1910

In a series of 100 consecutive cases in other than goiter patients, or patients coming on account of laryngeal symptoms, there were found one case of total paralysis of the left cord without noticeable symptoms, one case of partial and one of complete abductor paralysis, and two of partial loss of both motions of the left cord. In one case only, the right cord showed a deficiency of both motions. These patients were more than normally liable to affections of the cords, since most of them came for other pathologic conditions in the nose and throat. But, since goiter patients are also especially affected by diseases of the nose and throat, it might be considered proper to deduct from the percentage due to goiter the 6 per cent. found in these cases. This would, in cases of slight enlargement of the thyroid, make the percentage for the right and left cord nearly equal, while in cases of greater enlargement the left cord would still show a relatively greater tendency to paralysis from pressure, probably on account of the more exposed position of the left recurrent laryngeal nerve.

The position of the lobes is quite as important as the size of the goiter, since, for goiters of the same size, affections of the cords are much more frequent in those cases with lobes located near the clavicle, especially if all or a portion of the goiter is intrathoracic. Exceptions to this are the cases in which the large lobes extend so high as to reach the external branch of the superior laryngeal nerve. This condition occurred in four cases which showed bilateral tensor paralysis caused by large, high median lobes. Firmness is likewise important, since small, hard lobes are more apt to injure the nerves than larger soft lobes.

Long duration of the goiter increases liability to vocal paralysis, probably because as a rule the older cases have the greater enlargement. Apparently there is also an additional danger from long-continued pressure.

Men are about three times as liable as women to paralysis from goiters of the same type.

Exophthalmic goiter does not differ materially from other forms of goiter in its effects on the vocal cords, except in cases of extreme hyperthyroidism, in which its effects are evidently increased as a direct result of general wasting of muscular tissue.

The age of the patient has no demonstrable relation to the pressure on the recurrent laryngeal nerves except that goiters of large size and long duration are more frequently found in older individuals.

TABLE OF OBSERVATIONS IN CASES OF GOITER

		Paralysis.	Paresis.	Abductor.	Tensor.
Number of cases	1,000				
Cords affected (Right 110, Left 179)	289				
One or both cords affected	262	Right 18	38	50	4
Bilateral	17	Left 30	62	83	4

RIGHT CORD

Size in inches	0–1	1–1½	1½–2	2–2½	2½–3	3–3½	3½–4	4–5	5+
Number cases	226	159	152	141	138	85	70	21	8
Cords affected	12	13	14	14	17	18	15	5	2
Number per cent	5.3	8.1	9.2	10.0	12.5	20.6	21.3	23.8	25.0
Paralysis	1	0	0	3	3	2	5	2	2
Number per cent	0.5	0.0	0.0	2.1	5.1	2.3	7.1	10.0	25.0
Abductor	6	7	8	5	7	9	6	2	0
Number per cent	2.7	4.4	5.2	3.5	5.1	10.3	8.5	10.2	0.0
Both motions	4	5	5	6	7	6	4	1	0
Number per cent	1.8	3.2	4.4	4.2	5.1	7.1	6.7	5.0	0.0

LEFT CORD

Size in inches	0–1	1–1½	1½–2	2–2½	2½–3	3–3½	3½–4	4–5	5+
Number cases	259	155	183	146	104	65	52	21	15
Cords affected	28	19	27	29	26	20	15	8	7
Number per cent	10.8	12.2	14.7	20.0	25.0	30.7	28.8	38.0	46.6
Paralysis	3	1	3	4	3	2	5	4	5
Number per cent	1.1	0.6	1.6	2.7	3.0	3.1	9.6	19.0	33.3
Abductor	11	10	13	15	13	10	6	3	2
Number per cent	4.2	6.0	7.1	10.0	12.5	15.3	11.5	14.3	13.3
Both motions	13	9	10	10	9	7	4	1	0
Number per cent	5.0	5.2	6.6	6.8	8.6	11.8	7.7	5.0	0.0

RESULTS OF OPERATION

In five cases the partial paralysis observed before operation had disappeared after operation, showing that the pressure must have been of short duration and not sufficient to cause permanent degeneration of the nerve. In eight cases of partial paralysis following operation, probably due to the pressure of edematous tissue in the region operated on, later observations showed complete recovery. Twenty-two case of partial paralysis following operation were observed but once, so that the ultimate result was not ascertained. In several cases with disturbance of phonation after operation, positive diagnosis could not be made between paralysis and edema.

Twelve cases of total paralysis followed extirpation of the lobes; three of these were malignant. Two cases followed ligation of the thyroid artery. In four of these cases aphonia appeared two or three days after operation, indicating that the cause was pressure and not section of the nerves, and therefore that the prognosis was good. No patient with total paralysis, observed either before or after operation, was seen to have recovered, though, through lack of opportunity for reexamination after the lapse of considerable time, such recovery might have escaped notice.

The frequency of paretic conditions, often without change of voice or other symptoms, emphasizes the necessity for careful laryngoscopic examination of all cases before operation. This is important, since it is essential to the prognosis of postoperative lesions and might be especially valuable in some cases, as showing the possibility of repairing damage by suturing the nerve severed during operation. Moreover, a beginning paralysis of the laryngeal muscles, apparently due to the pressure of the goiter, would be an indication for early operation in order to prevent complete and permanent degeneration of the nerve.

ABSTRACT OF DISCUSSION

DR. W. B. CASSELBERRY, Chicago: Elsewhere I have advocated the examination of the larynx in every case of goiter and have stated that paralysis, leading toward impairment of the voice, might be the determining factor in advising an operation for removing the bulk of the thyroid. There are so many cases in which there is hesitancy, where it is doubtful whether the patient should take the risk of operation, the symptoms not being extremely urgent, that if the vocal cords are examined and impairment of one or both observed it would plainly justify operation. I have had a case operated under these circumstances. Nowhere in the

literature have we reports of such numbers of accurately observed cases. The essayist referred to one point that I would ask him to be a little more explicit, that is, whether he noticed preliminary paralysis of those nerves which cause the vocal cords to separate, thus permitting the closure of the glottis with dyspnea, to precede for a time the total paralysis of motor innervation. This greater vulnerability of the abductor fibers of the recurrent laryngeal nerve is known as Semon's law. I have noticed it in cases of compression of the nerve by aneurysm of the aorta. Even though the paralysis be one-sided, if that cord is fixed in the closed position, and there is a little swelling of the other side as from the "cold," dyspnea is produced. I would also ask whether he has observed from pressure by goiter a paroxysmal barking cough, which I have observed from pressure on the laryngeal nerves by enlarged lymphatic glands, especially by one gland located on the right side almost under the clavicle.

DR. GEORGE F. COTT, Buffalo: I should like to call attention to the fact that in the removal of the thyroid, either partial or total, it is almost impossible to tell whether you are going to have paralysis on one side or not. It is sometimes impossible to find the thread-like nerve, especially if you have a good deal of bleeding; you are liable to include the recurrent laryngeal or to injure it. You may get paralysis days or weeks afterward, which, however, usually recovers. It does not always depend on the expertness of the operator either. The best men get a certain percentage of paralyses. I know a number of men who are most expert who have had this happen. I have had in twenty cases one case of paralysis that I know of and I think the reason I haven't observed more is that I did not examine the larynx in the others.

DR. HENRY HORN, San Francisco: The essayist did not speak of a preliminary bronchoscopic examination of these patients, so I suppose it was not carried out. It would have been of extreme interest and I think it is going to be one of our preliminary methods of examination in all cases of struma. I hardly feel competent to speak of the surgical treatment of struma, but in certain cases of large cystic goiter where there is dyspnea it is often a question to know how much to remove. If the bronchoscopic examination shows a half circle formation we know from the start that the operation can be made on that side and afterwards the cystic tumor on the other side will come to the middle and there will not be so much deformity. It is a bad term to use "bronchoscopic examination" for these cases as it is not necessarily that, but a tracheoscopic examination. It is an exceedingly simple procedure to pass the small tube of the tracheoscope in far enough to examine the sub-glottic region, and it seems to me that it is a means of diagnosis that should not be overlooked. There are three cases, so far as I know, of what is called tracheal struma and the second was diagnosed by means of the bronchoscope. For these reasons I hope that a great many will acquire enough experience to make such a diagnostic examination, which I consider entirely justifiable. In fact, I believe a great many general physicians will find these examinations much easier than the use of the laryngoscopic mirror, for there are still many general practitioners who cannot use the mirror satisfactorily.

DR. GEORGE PAULL MARQUIS, Chicago: Carrying out the idea the last speaker has given us, I think a great many diagnoses as to whether these cases of struma are operable, and as to the extent of operation advisable, can and should be made by means of the bronschoscope. I have during the past winter made several examinations for some of the Chicago surgeons for this purpose. In one case a diagnosis was made by the bronchoscope in which there was no enlargement of the gland on the outside, and by direct laryngoscopy I could not see any involvement, but on using the tracheoscope I found the condition about two inches below the vocal cord. The operation was performed by the surgeon and it was found that there was a lobe pressing from the posterior surface of the trachea. This diagnosis could not have been made in any other way.

DR. JUSTUS MATHEWS, Rochester, Minn.: As to Dr. Casselberry's question with regard to the comparative frequency of abductor paralysis, it occurred in 133 cases of my series while partial paralysis of both cords occurred in only 119. But while abductor paralysis was much the more common, I found in only a few cases abductor spasm associated with it. I attribute this to the gradual increase of pressure due to slow growth of the goiter which did not produce sufficient irritation of the abductor fibers to cause spasm. I found it in about eight or ten cases. Cough, associated with abductor paralysis, was not a rare condition, though not common. I found it, I believe, in at least fifteen cases. It was necessary to make a differential diagnosis between cough due to nervous irritation and cough due to colds or bronchitis, with relation to the giving of an anesthetic. The indication being to operate immediately in case of the former and to delay operation in case of the latter. We rarely, if ever, used the bronchoscope or tracheoscope in the examination of goiter patients, since most of them were to be operated on and the exact condition could be more accurately diagnosed at operation, and the passing of instruments would result in more or less inflammatory reaction that might delay operation. Our patients are practically all non-residents and anxious to be operated on and go home, so we make no unnecessary manipulations that might delay operation.

THE CURRENTS AT THE EASTERLY END OF LAKE ERIE AND HEAD OF NIAGARA RIVER *

THEIR INFLUENCE ON THE SANITATION OF THE CITY OF BUFFALO, N. Y.

GEORGE EDWARD FELL, M.D., F.R.M.S.
BUFFALO

Buffalo for many years has taken its water-supply from an intake near the center of the Niagara River, near its head at Lake Erie. The current at this intake runs from 7 to 9 miles per hour, carrying "220,000 cubic feet per second," which was considered at the time of the location of the intake as a valuable factor, influencing the character of the water through its rapidity. A location much nearer to the American shore or Bird

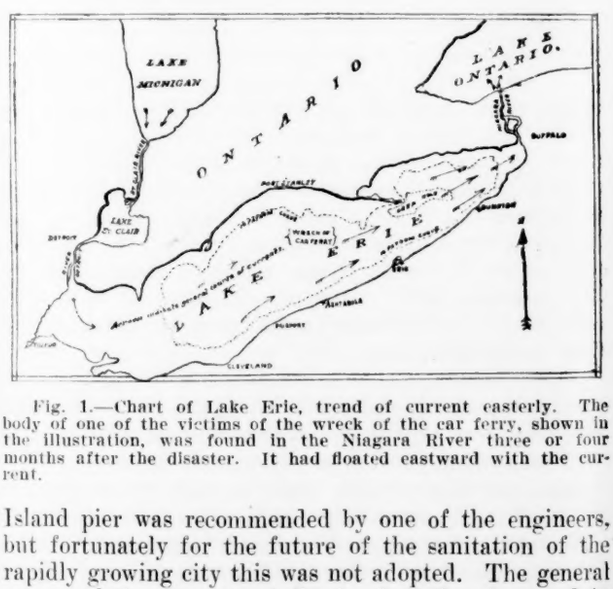

Fig. 1.—Chart of Lake Erie, trend of current easterly. The body of one of the victims of the wreck of the car ferry, shown in the illustration, was found in the Niagara River three or four months after the disaster. It had floated eastward with the current.

Island pier was recommended by one of the engineers, but fortunately for the future of the sanitation of the rapidly growing city this was not adopted. The general course of the currents at the head of the river and in the lake had virtually nothing to do with the question of location. To the southward the sewage of the city was thrown partially into Buffalo River, which in its

* Read in the Section on Preventive Medicine and Public Health of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, 1910.

current course down the Niagara runs with its contaminated water close to the American shore and gave most positive proof of its virulent nature (Figs. 1, 2, 3, 13 and others).

From the following account of the typhoid fever epidemic (Buffalo, 1894) it is seen how quickly an epidemic can be produced by contaminating the water supply of a great city. In the month of January, 1894 (official reports), there were twelve cases of typhoid fever in the city; in February eleven cases. Fine ice coming down the river clogged the entrance to the intake in the middle of the river. In the emergency, and as a provision in case of a large fire, the Bird Island inlet (No. 13) at the easterly side or shore of the Niagara River was opened and more or less of the waters of the contaminated Buffalo River pumped into the water-supply in March, 1894. The number of typhoid fever cases

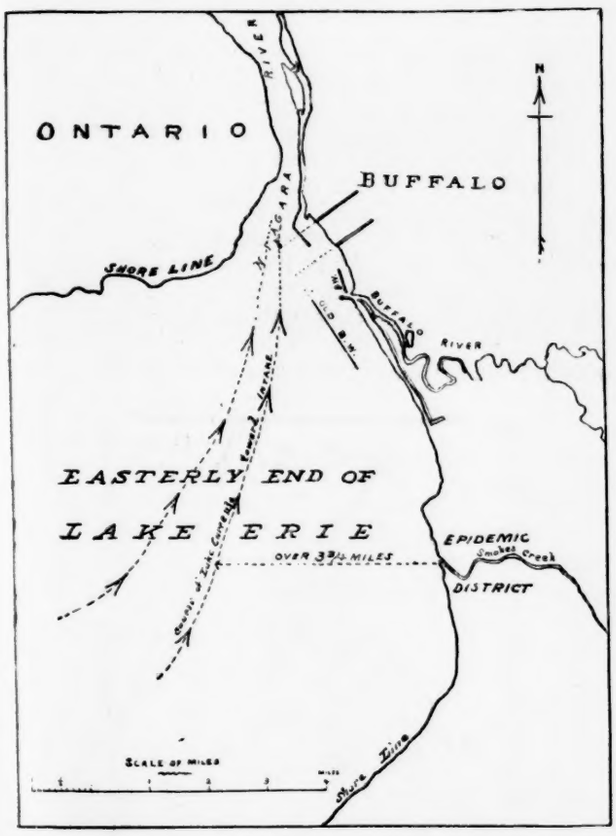

Fig. 2.—Eastern end of Lake Erie, City of Buffalo and head of Niagara River.

jumped from 11 cases in February to 510 cases in March. As soon as the cause of the epidemic was discovered and the shore intake closed, the cases decreased in number, so that in June, 1894, but 15 cases were reported by the health authorities. Just remember this when we discuss the possibility of throwing an entire winter collection of typhoid epidemic débris into the same water-supply.

Now to indicate that the water of Lake Erie to the southward of Buffalo and about a mile out in the lake is clinically, and virtually bacteriologically, pure, we note that the intake of the western New York water works, from which the supply to the community of Father Baker, numbering several thousand, has been supplied for years, has never known a case of typhoid fever. This is the character of the water according to the testimony of the currents which dominate the area directly westward of the long series of United States breakwaters, which the charts indicate (Figs. 3 and 4 with and without the breakwaters).

CONDITION WHICH BROUGHT ABOUT THIS INVESTIGATION

On the charts (Figs. 2, 3, 4 and 5) will be noted the location of Smoke's Creek, and the Lackawanna Steel Plant, which was under construction when, in the fall and winter of 1903, an epidemic of typhoid fever broke out along the banks of the creek where the laborers were living under deplorable conditions.

Happening at the same time as the noted epidemic at Ithaca, N. Y., the conditions were considered somewhat parallel by many prominent physicians. One prominent physician said, (so reported), "What they have experienced at Ithaca we are liable to experience at any time from the same condition." A representative of the state board of health reported, "Existing conditions were excessively dangerous to residents of the immediate neighborhood, and to the people of Buffalo."

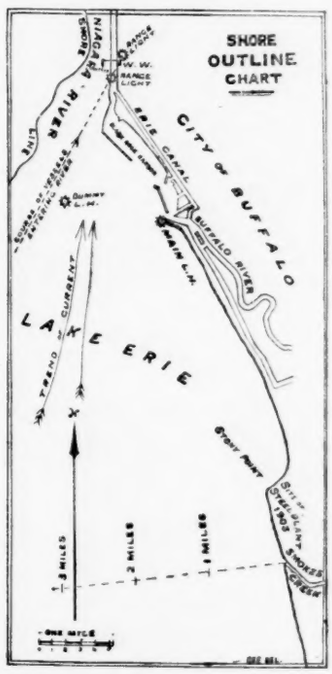

Fig. 3.—Shore outline chart, from Smoke's Creek, the epidemic district to Buffalo Water Works intake.

The health commissioner of the city, and 90 per cent. of the physicians of the city through newspaper interviews voiced but one opinion, and that was of positive and certain great danger when the spring freshets carried the débris from the typhoid district at Smoke's Creek out into the lake. The epidemic of 1894, costing over a hundred deaths, was not forgotten. But the general belief was openly expressed in one of the most prominent newspapers of the city of March 1, 1903. The article was headed, "Buffalo's Peril and Its Source." A chart of the lake front on the front page of the paper, depicting the outflow from Smoke's Creek, coursing outside of the breakwaters (Chart 4 with breakwaters), and directly toward the intake, had the following description of the impending disaster:

The above map, showing the source of the city's water supply conveys a striking object-lesson to the people of Buffalo. Near the top is shown the pumping station, where water is drawn from Niagara River to supply the city.

At the lower end is seen Smoke's Creek, emptying into the lake its daily burden of pollution in the form of millions of disease-breeding germs, the drainage of the great steel plant colony at that point. The currents all set directly toward the point where the lake empties into the Niagara, and the outlying breakwalls direct this deadly filth-laden current toward the intake of the Buffalo Water Works. (Chart 4.) All winter long an army of laborers have been working at this point and living in improvised shacks on the premises. There is no sewerage, and slops and filth of every description have been dumped in immense quantities on the surface. With the first spring thaw this entire mass of pollution must inevi-

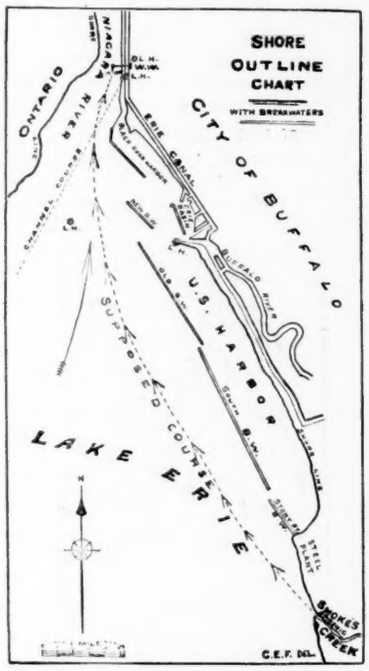

Fig. 4.—Shore outline chart, with breakwaters constructed by the U. S. Government, showing erroneously supposed course of currents from Smoke's Creek.

tably be washed into the lake, and no human power can prevent its being swept out into the Niagara River, pumped into the reservoir, and distributed with its burden of disease and death throughout the length and breadth of the city.

These reports naturally spread consternation in the city, gave the city a bad name abroad, kept industries away (so reported), and did great harm to the community.

When this agitation was its height, I questioned the truth of it, and stated to the editor of a leading paper that there was no reason for such a scare, that it was uncalled for, and that proper investigation of the currents of the lake and river would so demonstrate. My stand was actually ridiculed by one paper. I was berated for presuming to question the statements of the authorities as though an old citizen had no right to assist in protecting the community in which he lived, under such contingencies. It being a public matter, I gave to the public the following statement:

When a careful study is made of the currents at the head of the Niagara River it will reveal that we are not in any danger of having our present intake supply of water seriously infected with septic material coming either from Smoke's Creek or Buffalo River, not only in the spring freshets, but any time under existing conditions.

I was opposed *in toto* to the views of the great majority of our leading physicians and the state and city health authorities. But one physician, as I recall it, Dr. Matthew D. Mann, of the hundreds interviewed, expressed the idea that the currents might avert the threatened disaster.

Through the assistance of the editor of a prominent paper I obtained the use of the little steam yacht *Empire* and its old engineer, and demonstrated to my satisfaction by preliminary experiments, the truth of my assertions. This was as far as I intended to proceed, as I had not time to give to a more complete investigation of the subject. The mayor of the city, Hon. Erastus C. Knight, knowing of my former experience as a hydrographic engineer, and believing there might be truth in my statements, requested the continuation of the work and gave it his unqualified support. This placed the work on an official basis. The investigations extended over three months of time and were carried on at considerable personal expense, which was never reimbursed.

PHYSICAL CONDITIONS

From ordinary observations of the geographical features and the arrangement of the breakwaters at the easterly end of the lake, it would appear on superficial examination that the littoral or shore current at Smoke's Creek would proceed to the west of the breakwater limits. It was found on observations of the current that it passes into the openings between the breakwaters, and that under the ordinary conditions existing when the lake is at normal height and when the gales from the west prevail, the American shore waters at the eastward end of the lake hug closely the easterly side of both river and lake. If Buffalo Harbor was a landlocked bay, with but one narrow entrance and no outlet, there would

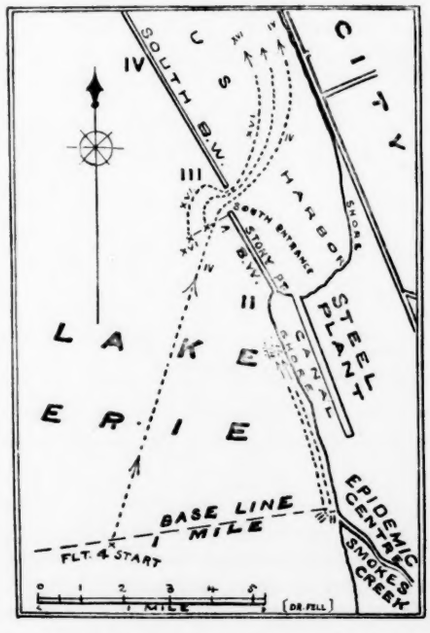

Fig. 5.—South channel entrance, showing actual currents.

be an ebb and flow, influenced entirely by the rise and fall of the lake level as at Erie Harbor (Presque Isle), Pa. At Erie Harbor when the lake rises the water rushes through the one channel opening into the bay at the rate often of 7 to 9 miles per hour, and when the lake falls it passes out as rapidly, according to the rapidity of rise and fall in the lake. This I know from personal observation. It is merely a question of water seeking its own level. But the condition at Buffalo is very different. We have the terrific outflow of Niagara Falls

exerting its power at the head of the Niagara (a flow of "215,000 cubic feet per second"). This flow is always to the northward—in one direction. The breakwaters act as barriers holding back the water until it reaches the openings between them, when it passes through, as our floats indicated, but not in sufficient quantity to equalize the level, or to make up for the continuous flow to the northward to the falls. Hence the condition is usually constant, even with sudden fluctuations in the water of the lake, which are usually slight.

Fig. 6.—View of south channel in distance from superstructure, Union Bridge.

DESCRIPTIONS OF FLOATS USED

The float consisted of two tin cans (Fig. 15) tightly sealed, each 3 inches in diameter by 6 in length, the lower one weighted sufficiently almost to submerge the upper one so that the wind would not influence it. The lower one was placed so as to float clear of the bottom of the lake, the observations thus recording the average

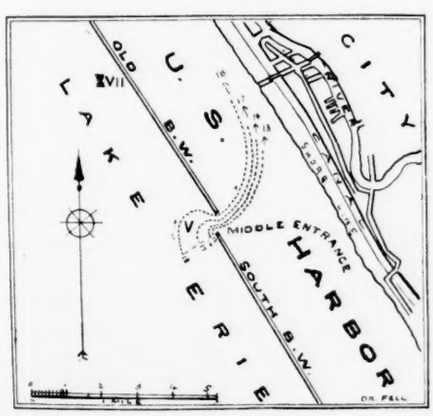

Fig. 7.—Middle channel entrance to U. S. Harbor. Actual currents.

current—not top or bottom current—of the water through which it coursed. Each float was followed by a policeman in a boat as an absolute necessity to keep track of it, throughout its full course. Many more observations than are depicted on the charts were made, all of which emphasized the fact that the currents follow the courses given in the charts.

Complete detail charts are provided showing the course of the current observations, covering the area influenced by the question at issue. They will be described together with the detail of the course of the floats, beginning with those indicating the shore currents at Smoke's Creek, or proceeding from the south, northerly.

Observations were made when the lake was under normal conditions as to stage of water, and with light winds, the condition usually prevailing in the summer season.

To appreciate the import of this work it must be remembered that the generally believed course in a freshet of Smoke's Creek was that it would course out into the lake away outside or to the westerly of the breakwater, as shown on the chart (Fig. 4).

CURRENTS AT SOUTH HARBOR ENTRANCE AND SMOKE'S CREEK

Two floats were used here and placed 100 feet and 300 feet, respectively, from the shore at the mouth of the creek. In the course of five hours they had floated northward about parallel with the shore and about a quarter of a mile from their starting point (Fig. 5).

A float was placed one mile out in the lake from Smoke's Creek, and arranged to take in a depth of 28 feet of water. It passed into the South Harbor entrance, as shown by same chart, and what is significant—within a short distance of the northerly end of Stony Point breakwater. Floats located 200 feet, 500 feet and 1,000 feet westward of the north end of Stony Point breakwater passed into the inner or United States Harbor through the south channel entrance, and in a broad sweep well toward the eastern shore of the harbor (Figs. 5 and 6).

As the mass of water passing eastward through the south channel entrance is very many times more than

Fig. 8.—View of middle channel from roof of Export Elevator.

could possibly pass out of Smoke's Creek even when filled to its greatest capacity in freshets, it is reasonable to believe that material from Smoke's Creek does not pass north of the south channel entrance; also that the character of the water passing along the westerly side of the south breakwater is of same purity as that one mile out in the lake at Smoke's Creek. I have already indicated this by the clinical demonstration of the purity of the water used at Father Baker's establishment at West Seneca, which uses water taken from this part of the lake

MIDDLE CHANNEL ENTRANCE

Floats of suitable depth placed 75, 150, 500 and 1,000 feet, respectively, westward of north end of the south breakwater passed into the United States harbor through middle channel entrance, and in a wide sweep to mid-harbor, before passing northerly toward the light house pier (Figs. 7 and 8). The conclusion here must be that water coursing along the westward side of the south

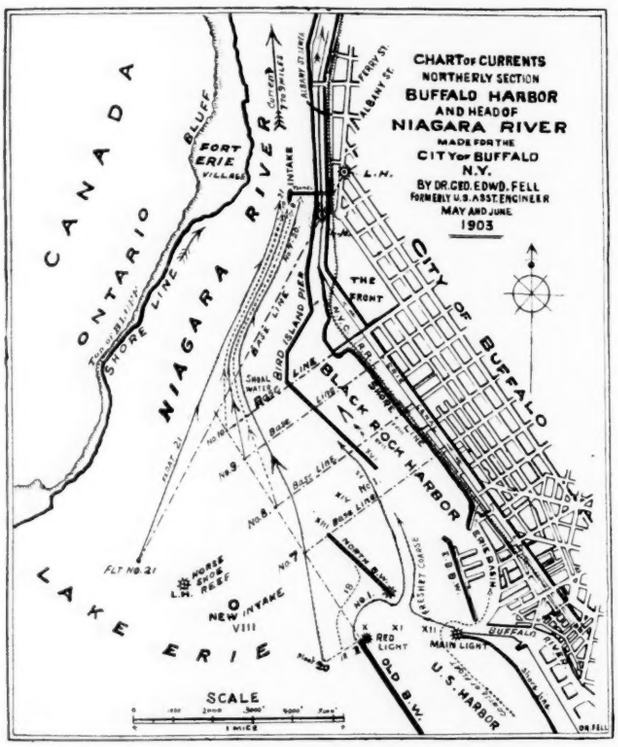

Fig. 9.—Chart, northerly portion of Buffalo Harbor, showing actual currents and main harbor entrance.

Fig. 10.—View of main harbor entrance from roof of Chamber of Commerce building.

breakwater, even as far west as 1,000 feet from the breakwater, passes into the middle channel entrance, and makes much more remote the probability or possibility of any water from Smoke's Creek ever passing westerly of the breakwaters. But let us pass on to the northerly section of the harbor.

OBSERVATIONS NORTHERLY SECTION OF BUFFALO HARBOR AND HEAD OF NIAGARA RIVER

Here we find a most extraordinary and interesting confirmation (Figs. 9 and 10) of the facts which we are forced by these observations of natural conditions to accept, namely, that no material from Smoke's Creek or Buffalo River gains access to the Niagara River intake under normal conditions of wind and weather mentioned, and, in all probability, under no abnormal conditions with which old lake residents, who have observed these waters for many years, of which I am one, are acquainted.

Float 1 (15-foot depth) started at a point 50 feet westward of the northerly end of old breakwater (red light), instead of passing to the northward, as many would believe, passed eastward and southward, fully 150 feet southerly of the north breakwater.

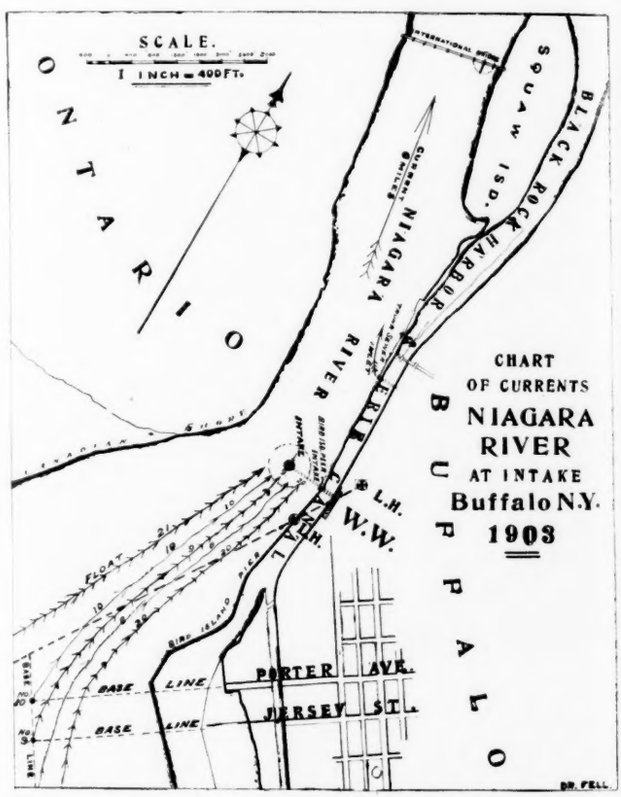

Fig. 11.—Chart of Niagara River at intake. Detail of currents.

The wind at the time was blowing briskly from the east, which was directly against the course of the current, and the float. Mayor Knight witnessed this demonstration. The idea that the wind produces currents opposing the natural flow of water was proved to be false in this case. The float further coursed in a good sweep to the north and east and lodged against the west side of Bird Island Pier as shown on the chart. This might be called the initial official observation, except that I had known of this current from almost the beginning of the construction of this north breakwater, watching it daily in my trips to what was then my summer home at Crystal Beach, Ontario, and studying it for years since; the fact is emphasized that this current always sets from the lake toward the shore and forces the outflow from Buffalo River and the United States Harbor to the eastward; that all septic material from these portions of the harbor is actually driven further

eastward from the intake pier than it was before this breakwater was constructed. Again, I have frequently observed the outflow of Buffalo River in the spring freshets. From any of the high buildings (Fig. 10) the line of demarcation of the muddy water of Buffalo River can be distinctly seen to the east of the clear blue water of the lake. I have called the attention of several engineers of repute to this fact, which they have verified. The great importance of this current on summing up the results of all these factors, which have been questioned by engineers who have made a cursory examination of the question, will be noted.

Float 19 started 500 feet westward of the north end of the old breakwater, was picked up about midway along the westward side of the north breakwater indicating that at that point the current divides, one portion going north and the other south (Fig. 9).

Float 20 started at a point 1,000 feet westerly and at right angles at the north end of the old breakwater, in 37½ minutes was picked up at the intersection of Virginia Street, prolonged westerly, and the prolongation of the old breakwater northerly. From this point it was again started and followed to a point one-half the

Fig. 12.—View of present intake from American shore.

distance between the intake and Bird Island Pier, or 320 feet eastward of the pier. Without giving the course of intermediary floats, which show on the chart, it was found that the one started from the intersection of Jersey Street and the old breakwater prolonged took the course to the center of the intake pier. (The new intake takes the same water). From this it is seen that the intake is supplied by water coming from the starting-point of Float 9, intersection of Jersey Street and breakwater prolonged, and which if carried in the regular course of lake flow from the southward strikes a point over three thousand feet westerly of the north end of old breakwater (red light—Fig. 9).

Now let us see what kind of condition would carry any material from Smoke's Creek to the intake under the conditions of wind and weather cited. If we continue the general course of this current further southward to opposite Smoke's Creek it will be found to be about three and one-half miles out in the lake. Hence, to reach the intake pier, material from Smoke's Creek would have to start about three miles out in the lake to begin with. Taking it as it is, material from this creek floats along the shore, but would have to jump over 1,000 feet out into the lake before it could pass the current passing into the south harbor entrance. If it could do this it would have to repeat the performance at the middle entrance, and if such an absurd occurrence could take place it would be necessary for the floating material to jump out at least 500 feet at the north end of the old breakwater to prevent being forced around the southerly end of the new breakwater and be carried northward closely skirting the Bird Island Pier at the region of the intake. And again, as I have shown, to reach the intake such material would have to gain a

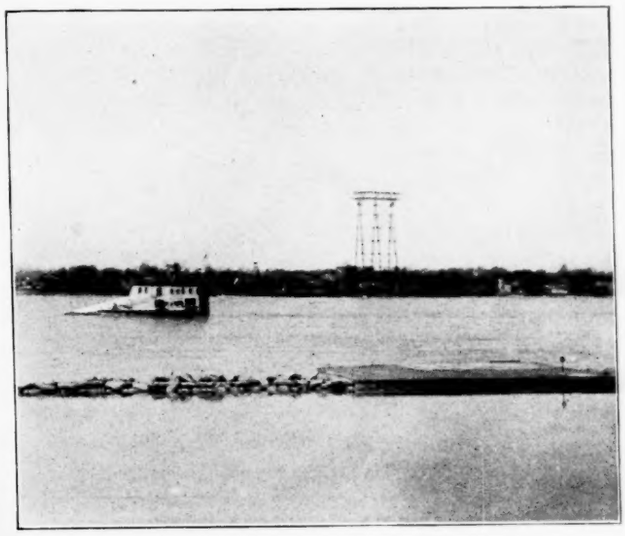

Fig. 13.—View of intake, and Bird Island Pier intake, the latter the source of epidemic of 1894, costing over 100 lives.

14. View of intake, range lighthouse and Bird Island Pier.

position at least 3,000 feet west of the north end of the old breakwater to reach the intake pier.

That any one could make the statement that material from Smoke's Creek, in the face of such natural conditions, could reach the intake is absurd, but the assertion has been made by sanitary engineers. No one who valued his reputation would do it after knowing the actual conditions of the currents, which through my investigation was first definitely given to the knowledge of the citizens of Buffalo. The strongest argument in favor of my stand in this matter is that in the spring when

the rains poured down, when both Buffalo River and Smoke's Creek were pouring their waters filled with typhoid infection, out into the lake with their fullest flow, no increase in typhoid fever or even in enteric diseases, according to statistics, took place. Had the material from the epidemic district of Smoke's Creek and Buffalo River reached the intake and been pumped into the water-supply, notwithstanding the precaution to boil the water, which was only partially carried out by the people at the time, there would have been a typhoid epidemic such as no large city in the country ever dreamed of, and the prognostications of dire results from the Smoke's Creek epidemic would undoubtedly have been realized. One great point of interest which I believe will make this paper appreciated is the remarkable and wholly unexpected course of these currents, never before studied, and their clear influence in protecting a great city, (through the location of the intake pier by fortuitous decision only, and not from any true knowledge of current conditions based on investigation), from its own infectious factors. The epidemic of 1894, costing over 100 human lives, I may again state proves this point.

Special attention is called to the current passing around the southerly end of the new breakwater. Its

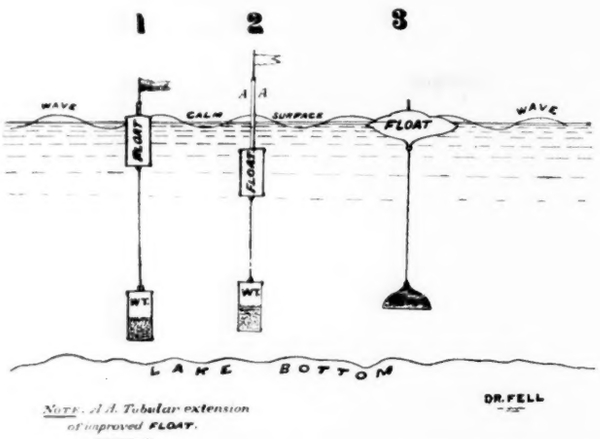

Fig. 13.—Diagram of floats. No. 1 used; No. 2 recommended; No. 3, a form condemned by author as unreliable in light seas and winds.

influence can be observed, as I have stated, any time in the spring freshets from the high elevations of the large buildings overlooking this portion of the harbor. It retains the freshets of Buffalo River and all material coming along the shore of the United States Harbor to the eastward and forces it closely along the westerly shore of Bird Island Pier, and much of it passes into Black Rock Harbor and the Erie Canal. From the Morgan building, in which my office formerly was located, I have observed it hundreds of times.

It was natural that opposition to my views based on the results of these extended and careful observations of the currents should persist even after the result was known. It was held that undercurrents, never known to any lake observer through unknown or never-heard-of wind conditions, carried the infection from both Smoke's Creek and Buffalo River out to the Buffalo intake, and also that the north breakwater aided in carrying infection further out in the lake than before it was constructed. And it is on record by one New York City engineer's report that the waters along the westerly side of the old and south breakwaters is seriously contaminated according to his bacteriological reports. I am not entering into any controversy with those who differ from me on this subject at the present time, but present these observations honestly, carefully made, and from an engineering point of view, without triangulation, most interestingly and correctly located and charted.

VALUE OF CURRENT OBSERVATIONS TO THE CITIES ON NIAGARA RIVER RECEIVING THE SEWAGE OF BUFFALO

About the year 1868, prior to the location of the draw of the international bridge (Fig. 11), I assisted in taking triangulation observations of the current of the river for about one-half mile south from and to the bridge site. This work was done at the suggestion of the officers of the Corps of Engineers, U. S. A., to aid in determining the rapidity of currents with reference to the best location of the draw of the bridge and resulted in a change from the proposed location from the center of the river in 36 feet of water to the eastern side in 16 feet of water. It also demonstrated that at this point the currents followed closely the general axis of the river, so that the pure water of the river follows the Canadian shore, and the contaminated water, owing to virtually the entire sewage of the city of Buffalo being thrown into it, the American shore. If the city of Niagara Falls takes its water-supply from the Canadian side of the river at a suitable point relatively pure water should be obtained. This observation may apply to many other cities.

It is to be sincerely hoped that the befouling of our potable water-supplies through sewage thrown into the lakes, rivers and streams of the country will be discontinued, as it can and should be.

24 West Eagle Street.

PRESENT-DAY PROBLEMS AND PROGRESS IN PREVENTION OF TYPHOID FEVER*

WALTON FOREST DUTTON, M.D.
CARNEGIE, PA.

The health of a people is its most valuable asset. This truth has been recognized by most governments of the world. They have found that the virtue of national strength lies, in great part, in the conservation of national health.

The United States government in its battle against malaria, yellow fever, cholera, uncinariasis, and plague, has accomplished much for the common good, but seems to have taken little interest in the prevention of typhoid fever. The first effort of any magnitude in this direction was during the Spanish-American war. The result was a signal, dismal, and disgraceful failure. The camps of Chickamauga, Tampa, Fernandino, Anniston, Mantauk Point, and those in Cuba, were enough to arouse the medical world to the inefficiency of the medical department in the prevention of typhoid fever. The national government's aid in the past twelve years, however, has materially increased, but not to the degree of being of intrinsic value to the people of the country.

It has been, comparatively, a recent procedure for the states and municipalities to take active part in the prevention of typhoid. Rural districts in all parts of the United States and Canada are practically without preventive measures. In northern Canada, during the

* Read in the Section on Preventive Medicine and Public Health of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, 1910.

year 1909, typhoid fever appeared to be generally epidemic, especially in the mining regions.

The preventive measures used are nothing beyond the occasional disinfection of stools and urine with chlorid of lime or bichlorid of mercury, and the boiling of drinking water. Contaminated springs and wells are not condemned, but cleaned out, sprinkled with lime or salt, and used again. Within the scope of my personal knowledge are several dug wells that have been the source of typhoid for twenty years. Any reference to them, however, as a means of infection, is met with apathy on the part of the consumers.

Present-day problems, as well as those of the past, concern, first, the individual; second, the community; third, the state.

In considering the individual, we must take his responsibility or importance as a factor in the causation or prevention of typhoid fever. The individual, in health, may be the means of carrying and distributing typhoid germs, and, in fact, may be the sole origin of the bacilli.

We know with what ease he may carry the bacilli by contact, food, etc., and, on the other hand, through some error of diet or irritation the digestive

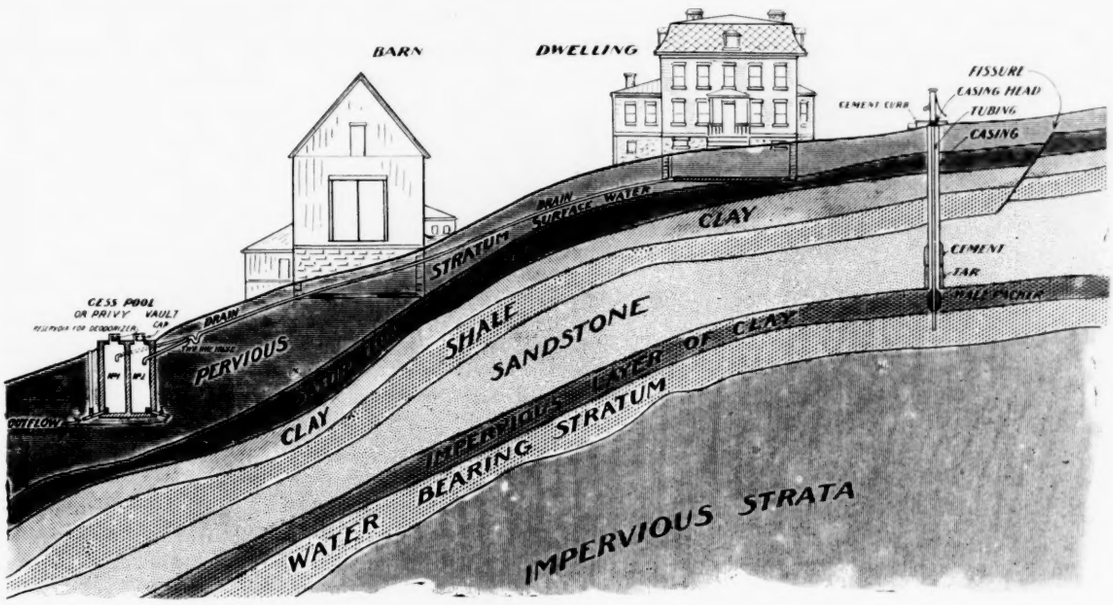

Fig. 1.—The proper method of sanitary construction in rural districts.

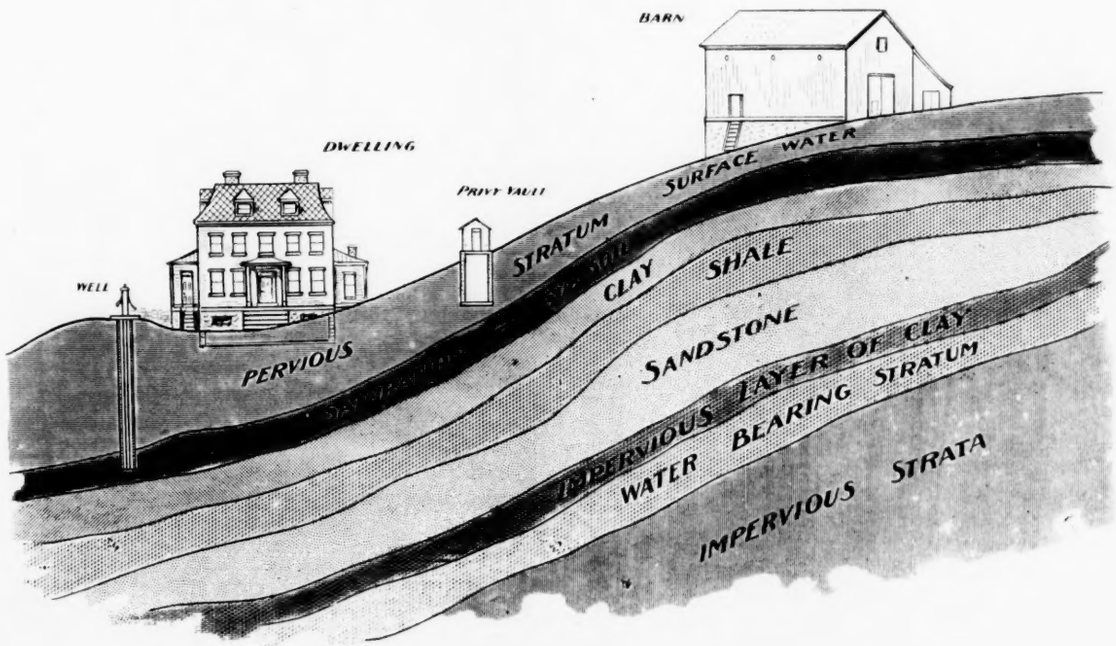

Fig. 2.—Improper method of rural sanitary construction.

tract, the colon, paracolon, or the paratyphoid, may, I believe, generate typhoid.

The individual comes to be a factor in the prevention of typhoid through a due process of education and law. He must be educated to know the nature of typhoid fever and the processes by which bacilli may be disseminated. Laws concerning preventive medicine and

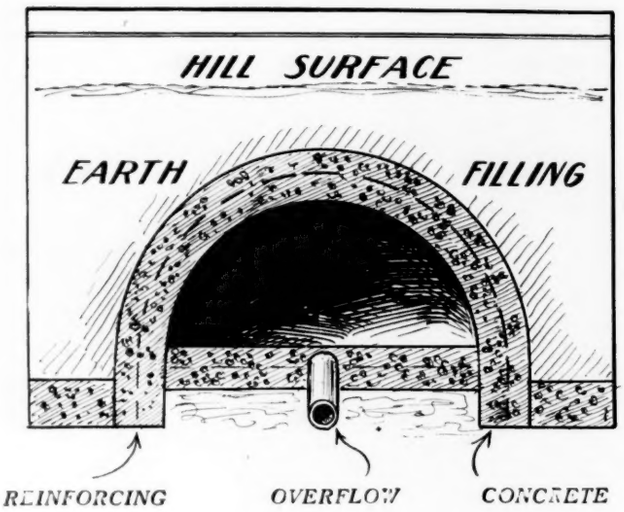

Fig. 3.—Concrete spring cover.

public health become more forcible through the individual's hearty cooperation.

The problem of the community is somewhat more difficult than that of the individual or the state. An epidemic may present many sources of infection and the situation may be complicated by the restriction of the authority of the community.

A commendable procedure, however, is the isolation of bacillus-carriers until the microbes can no longer be found in them. Precautions should be taken that the discharges of the carrier will not be a source of danger to his family, and to others. The individual is warned of the danger of the dejecta, urine, kissing, coughing, etc., and taught the processes of rendering these harmless. He is also to be instructed to wash his hands after defecation, and before handling clothing, foodstuffs, or vessels used for drinking purposes. This warning applies to the healthy, as well as the unhealthy bacilli carriers. A very great deal of responsibility rests on physicians, nurses, and hospital authorities. It requires tact, skill, and ingenuity to impress on individuals especially, the gravity of the disease, without causing undue timidity on the part of the persons involved.

The supervision of carriers employed as teachers, nurses, cooks, or employes in bakeries, dairies, restaurants, saloons, etc., should be rigid, for the community has a right to insist on the isolation of such carriers, until such a time as they are free from the germs. Hospitals should regulate their subordinate personnel, keeping careful record of all known bacillus-carriers, and using every precautionary measure to prevent contamination by instruction and enforced cleanliness.

Physicians should keep a record of all typhoid cases and systematize the record of carriers that due prophylaxis may be secured. The healthy, as well as the unhealthy germ-carriers, may be trained in the importance of prophylaxis, and thus reduce the source of danger to a minimum.

In every case, systematic search should be made for the source of infection, and the finding of bacillus-carriers will prove an important adjunct in the prophylaxis of typhoid fever. The prevailing idea that healthy carriers cannot be brought under supervision like other carriers is worthy of serious thought. The time is near at hand when the community and the medical profession will have the problem solved for their ready perusal and use.

The state is the great supervisor of preventive medicine and public health. In its hands lies the governing power, which, if duly exercised, can eliminate, not alone the major, but the minor sources of diseases. In Pennsylvania, the department of health, under the efficient supervision of Dr. Samuel G. Dixon, has typhoid, as well as other diseases, under practical control. From this department, means of communication is had, through its police system, with every dale, hamlet, and city, within the borders of the state. Within a few hours, infectious and contagious disease, in the most remote part of the state, is reported to the department of health and receives prompt attention.

Our present knowledge of typhoid is limited to the following factors as sources of infection; water, food, personal contact with the diseased individual and insects.

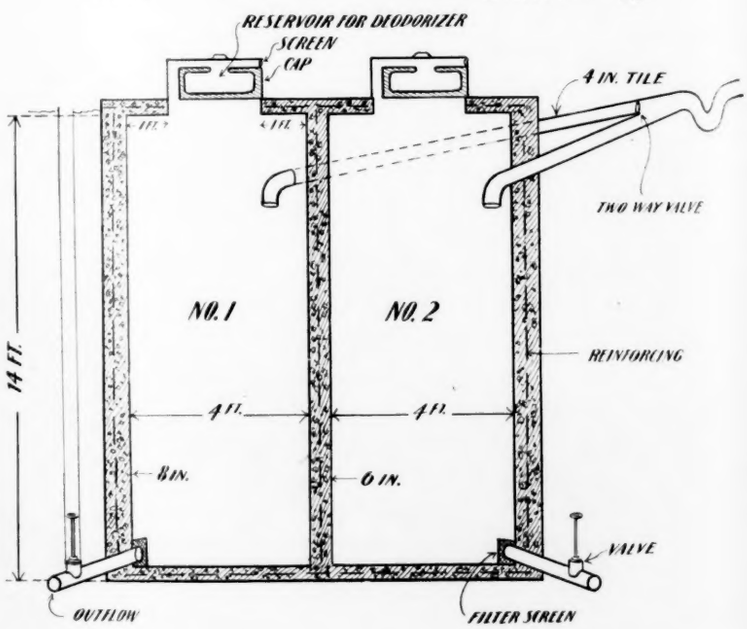

Fig. 4.—Concrete cess pool or privy vault of two compartments.

A great deal of progress has been made in eliminating water as a factor in our large municipalities by filtration, or by supply from large fresh-water lakes and streams.

The water-supply in small towns and rural districts presents a problem of more difficult solution. I believe however, that this factor may be overcome by proper sanitary regulation and legislation enforcing the protection of wells and springs. (Fig. 1) All wells should be drilled and the supply should be from depths beyond all

possible contamination by surface or fissure water. This may be best accomplished by casing the well to or on a stratum of rock or shale which is impermeable to surface, subsoil, or fissure water, and above the supply of water to be used for drinking purposes. A well not cased in this manner my be protected by a wall-packer. It is advisable, whether using a wall-packer or casing on the shale or rock, to run four feet of tar around the bottom; and above the tar, three feet of cement, or vice versa. The top of the casing should be protected with a casing-head, and the pump so adjusted that it will be both water-tight and air-tight. If, for any reason, the well must be dug, the tile (rough stone should never be used to wall a well) should be put down to an impermeable stratum, the bottom protected in the same way as the drilled well, each joint cemented thoroughly and the top protected by a concrete curb, as it keeps out the surface water and is easily cleaned.

The pathetic inscription of "the town pump" might be written as an epitaph on many a tombstone. The vine-covered spring where the wayfarer's thirst has been quenched and the rock-walled dug well are landmarks of the dark ages of sanitary science. The poetical "moss-covered bucket" has held a beverage deadly to thousands of human beings.

It is therefore time for a change from the ancient custom of placing dwellings, barns, privy vaults, etc., in such a location that they will drain into the spring or well, either over the surface, or through the soil, or permeable stratum (Fig. 2). Springs which may possibly be contaminated should be condemned, or they should be protected by cement or brick (Fig. 3). The shield or covering should be inserted into the surface far enough to shut out contamination from local sources. The basin of the spring may be easily constructed so that it can be cleaned at any time.

Municipal sanitation has taken a step forward in disposal of garbage. Seattle, Washington, Milwaukee, Wisconsin, New Brighton, Long Island, Vancouver, British Columbia, and Westmount, a suburb of Montreal, have destructors in successful operation. The reduction method, used by Cleveland and Columbus, Ohio, seems to be profitable and efficient. The examples set by the foregoing cities should be followed by all other American towns and municipalities. Rural districts, by the use of metal cans and wagons, may accomplish the same end, in an unobjectionable and sanitary manner, if instructed and compelled to do so.

Fig. 6.—Well which has been contaminated twenty years.

The care of feces and urine presents another problem for rural districts. This problem can be effectually met in three ways.

The first way is by the construction of a double compartment, reinforced concrete cesspool or privy vault (Fig. 4). The cesspool or vault should be so built that only one compartment is in use at one time, thus providing for the disinfection and cleaning of the other.

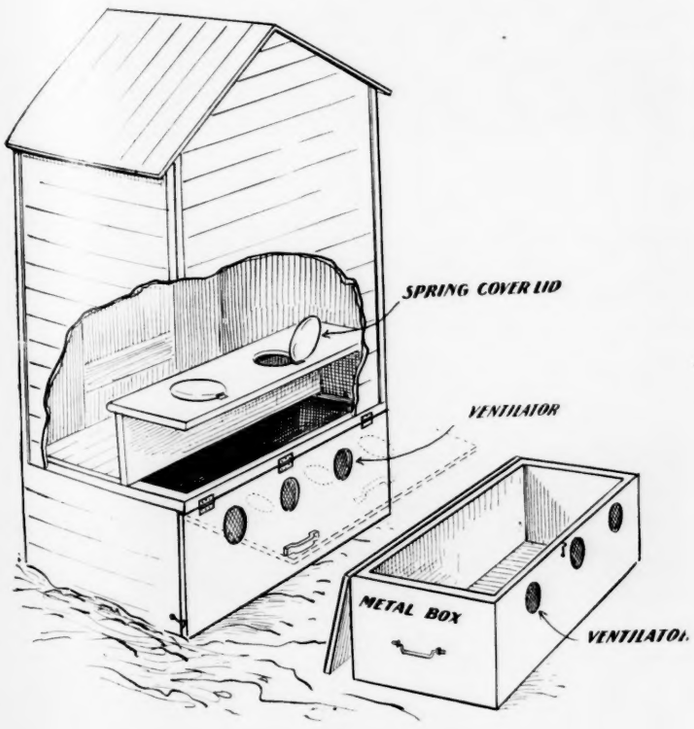

Fig. 5.—Perfection box closet.

Fig. 7.—Drainage from house, barn and closet toward spring.

The second is by the construction of a perfection box closet (Fig. 5). This closet may be so constructed as to be perfectly sanitary, allowing for free ventilation,

providing for disinfection, and screening from insects.

The third is by the use of a closet in which the stools and urine are sterilized or disinfected before being discharged into soil-pipe or drain. All railroad cars and vessels on bodies of fresh water should be provided with closets that disinfect and sterilize the stools and urine before discharging them.

The present method of constructing cesspools and privy vaults is a great error in so far as it pollutes the soil in the immediate vicinity, to say nothing of the

Fig. 8.—Proper location of well with reference to drainage. Privy vaults marked X.

Fig. 9.—Improper location of well with reference to drainage.

drainage to some distance from the cesspool. The seed of disease that is sown in the soil and the subsoil to-day will grow and be reaped in the harvest of disease and death to-morrow.

The law should be so stringent as to compel all patients, who have had typhoid, to carry some efficient germicide that when they urinate or defecate in promiscuous places, the excreta may be rendered harmless.

Much has been said about insect carriers of typhoid, and the best method of prevention of breeding. Manure and other food on which flies and other insects breed should be kept in screened or other insect-proof receptacles. As to the breeding and destruction of insects, the Bureau of Entomology issues literature, which, if the instruction is followed, will in due time eliminate this factor.

Vaccination against typhoid fever is practically in its infancy, yet, I believe, in due time, it will be quite effective and valuable.

I believe that the following provisions should be embodied in state health law: The state should be the supervisor of all water-supplies used for drinking and cooking purposes. It should specify, at all times, from

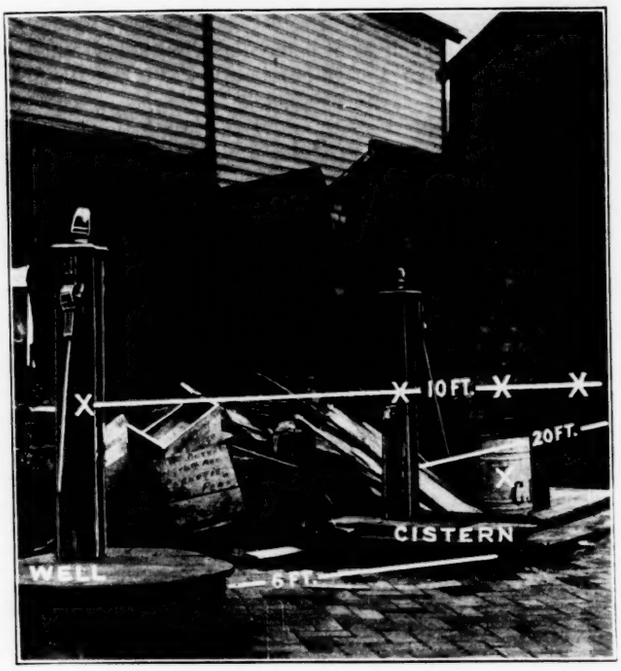

Fig. 10.—Insanitary location of well, cistern, privy vault and stable within twenty feet of each other.

which sources they should come, how they should be protected, and condemn all sources deemed detrimental to health. It should be the duty of the state to enact and enforce such laws as may seem fitting, relative to the

Fig. 11.—Insanitary conditions found in small towns and rural districts. Privy vaults marked X.

disposal of urine and feces from typhoid patients or bacilli carriers. It should be the duty of the state to specify how closets may be constructed on trains and vessels on bodies of fresh water, for purposes of disinfecting stools and urine. The state should specify, in given terms, how springs are to be protected and cleaned; how wells are to be drilled or dug, and protected from contamination. The state should hold equally responsible the individual, property-owner, attending physician, hospital, or whosoever may be found

guilty of violating any hygienic or sanitary rule, which will in any manner, whatsoever, disseminate typhoid fever infection. All physicians, hospitals, or those having supervision over typhoid case or cases, should systematize their records in such a manner that carriers may be traced, isolated, and cared for until such a time as they may be free from typhoid bacilli.

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ABSTRACT OF DISCUSSION

ON PAPERS BY DRS. DUTTON AND FELL

DR. H. W. HILL, Minneapolis: Dr. Dutton spoke very strongly about the question of typhoid from wells. I cannot speak for any other state than Minnesota, but I know that typhoid from wells is very uncommon in that state, probably for the reason that the character of the soil is such that the contamination is filtered out before it reaches the well. Our rural typhoid is practically never from wells in our state. Our well typhoid has been, as a rule, from the public wells of large communities infected very seriously with pollution of various kinds carried directly into them.

DR. C. HAMPSON JONES, Baltimore: Baltimore is considerably interested in the control of typhoid fever. In a résumé of the subject for a period of four years, which was published in our annual report of 1907, I mentioned the ten possible sources of typhoid fever in the city. Contrary to many excellent authorities, I believe that a great deal of our fever comes from the pollution of the water supply. The characters of the outbreak of typhoid fever due to milk infection are so peculiar, so clearly defined, that it is quite easy, I think, for us to detect practically every milk outbreak. In one there were 157 cases on one man's milk route; in another about 58 cases, and there were three or four others, which fortunately were checked in the very beginning of the outbreak, which produced only a few cases. We have followed out also the typhoid carriers, and we have had two very interesting cases. One was in a home for young women. The woman in charge of the pantry—of the foodstuffs—was discovered to be a typhoid carrier, after there had been fourteen cases of typhoid fever in this place. We excluded the possibility of the milk being infected, and also the water supply in that special locality. Dr. Stokes, our bacteriologist, followed out two carriers lately in a convent where there was a laundry; in it were a large number of colored girls. Two sisters in charge of the girls were the carriers, and the curious and interesting part of it was that there were two distinct outbreaks—one of paratyphoid fever and the other of pure typhoid. One sister was a carrier of the typhoid organisms; the other sister was the carrier of the paratyphoid; the children associated with each case developed typhoid fever according to the sister in charge of them.

In Baltimore we are about to perform an experiment on a great scale. We are putting in a sewerage system including the entire city. We will in a few years do away with all privy wells, of which we now boast in the neighborhood of 70,000. Just previous, however, to the doing away of these privy wells, the drinking water will be filtered. This will enable us to determine how much, if any, typhoid fever was due to both and to each.

DR. LISTON H. MONTGOMERY, Chicago: There seems to be a good deal of difficulty in taking care of the welfare of the people in public health matters in certain communities. May it not be due frequently to the fact that a layman has been appointed as the official health officer? I think this condition prevails in some portions of the northern states as well as in the South. People are not prone to look on a layman as very much of a medical scientist, especially when it comes to the matter of pollution of well waters, cisterns and rivers and streams, or in the matter of the eruptive diseases, and do not respect his opinions, and therefore may be careless in carrying into effect sanitary measures in detail.

DR. W. FORREST DUTTON, Carnegie, Pa.: I think it is a grave mistake on the part of the municipalities and the health officers in rural districts to countenance the pollution of soil. Some of our most eminent sanitarians are working on the question of soil pollution year after year, not alone with typhoid but with other diseases; Dr. Stiles, I think it is, has pointed out to us most forcibly the effect of soil pollution; and in most of our northern states, especially those that have been settled for two hundred years, soil pollution is a serious problem that will remain with us as long as we will countenance these open privy vaults. I believe that the state of Pennsylvania has caused to be constructed within the last few months privy vaults that are to be bricked up about half way, and then are to be cemented the rest of the way up with an ordinary covering over the vaults, and has prohibited the discharge of sewage into certain streams. I think that is a grave error. If they are going to compel the citizens in the rural districts to construct privy vaults, why not erect them properly, so that there will not be this pollution of soil that has been going on for years? We have regular epidemics of typhoid fever which may not be due to the water originally, but to drainage from privy vaults into the soil. According to a great many eminent authorities these bacilli are viable for an indefinite period, possibly multiplying in the soil, and as far as Dr. Hill's reference is concerned, Minnesota is comparatively a newly settled country, and a hundred years from now if they allow this soil pollution to go on they will have the seeds of disease sown that will be reaped by future generations.

SURGICAL MISTAKES IN INFANCY AND CHILDHOOD *

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Not all the mistakes here related are of my own making, for which I am duly thankful. But many of them or their results have come under my own observation. Others have been related to me by my colleagues.

The cases are, for the most part, not merely such as would in the adult present difficulties in diagnosis or in treatment; but they are such as are met only in the surgery of infancy and childhood, or in these periods of life present peculiarities when, compared with corresponding conditions in the adult, and lead the practitioner unfamiliar with them into error.

I have taken especial pleasure in presenting the illustrative cases furnished by my colleagues, because they show that the idea that mistakes in the surgery of infancy and childhood are altogether too common is entertained not by myself alone; they show also that the condition of ignorance of children's surgery is not confined to any one part of the country.

NECESSITY FOR CAUTION IN OPERATING ON CHILDREN

Take for example the following case, related to me by Dr. Zahorsky of St. Louis: An infant 5 days old had an enormous cephalematoma, which was aspirated by a physician, but promptly refilled. A surgeon then made an incision and packed the cavity with gauze. But in spite of all measures slight bleeding continued until the baby died. There was no history of hemophilia and none of the doctors considered the baby a "bleeder;" but it taught them a lesson they should have known before—for such cases are not uncommon—namely: never to operate on cephalematoma unless, later on, an abscess results, which must be drained.

A baby 3 days old with a hare-lip was operated on, losing some blood, of course, at the operation, and suffered from severe secondary hemorrhage, from which it

* Read in the Section on Diseases of Children of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, 1910.

died on the sixth day. This illustrates the point that, since there is no necessity for operating at once on a hare-lip, a child should never be operated on for this condition during the first few days of life, when the tendency to hemorrhage is so pronounced. The same is true of phimosis, a spina bifida or any malformation not immediately endangering life. In anorectal imperforation, atresia of the esophagus or the like, it may be necessary to risk immediate operation to save life.

A child of 4 years, in good general health, but with a cleft palate, was operated on in the presence of a purulent rhinitis; the result was failure of union and sloughing of a portion of the flaps. The lesson from this mistake is obvious. No such patient is fit for operation until the adjacent tissues have been rendered free from infective inflammation.

A boy of 5 years with cleft palate came to a dispensary and, although he had a cough, was somewhat hastily put through an operation for cleft palate. The cough proved to be whooping-cough. It was not very severe, but it was persistent and had the spasmodic paroxysms of that disease, and it tore out some sutures. Bronchitis followed the operation, perhaps favored by the hemorrhage, bronchopneumonia supervened on the bronchitis and the boy succumbed in the third week of his illness. It was a mistake to operate on that child with a cough.

Dr. Zahorsky relates a similar case in a girl of 4 years operated on for cleft palate, by mucoperiosteal flaps and staphylorrhaphy, with chloroform as the anesthetic. A mild bronchitis was present at the time of operation, but grew worse, developed into bronchopneumonia and resulted in death two weeks after operation.

It is a mistake to perform any similar operation on a child in whom elevated temperature indicates the possible onset of an acute illness, and especially is this true if it is a child who is subject to convulsions on the slightest provocation, for convulsions are disastrous to the results, not only in operations on hare-lip and cleft palate, but in many postoperative conditions which will readily occur to mind, and convulsions are a great deal more likely to supervene in a child than in an adult.

Dr. Cattermole states that he has several times seen operations performed for adenoids and enlarged tonsils when the child was in no fit condition, having acute pharyngitis or bronchitis at the time of operation. Dr. Cattermole also relates the case of a child of 5 years with appendicitis gone to abscess. After evacuating the abscess the surgeon persisted in removing the appendix, and the child died. Dr. Cattermole considered that it would have been better merely to drain the abscess for the time being, and he was right.

DANGER OF DELAYING OPERATION

I shall never be able to forget my first case of foreign body in the larynx. That was more than twenty years ago, but it remains indelibly impressed on my memory:

A girl of 6 years was brought from the country to my clinic at the dispensary. She thought she had drawn into her windpipe a piece of the kernel of a hickory-nut. There was some dyspnea which was worse in paroxysms with coughing, and some aphonia; but, again, at times the breathing would be easy and comfortable. The girl was quite able to walk about. I placed her in the hospital intending to operate. But a distinguished laryngologist, and a senior surgeon on the staff, both my superior officers in the institution, advised against operation. The laryngologist inspected the throat on several occasions with laryngeal mirrors and attempted with laryngeal forceps to remove the foreign body. On failing to do so he always postponed operation in hope of better luck with his fishing tackle on the morrow. On the fourth day the foreign body suddenly shifted its position and the dyspnea became extreme. The house physician hastily summoned aid. I was the first to arrive on the scene and in a moment had opened the larynx and extracted the nut-kernel. The child took one easy breath, but that was her last. She was exhausted. That child could have been saved by timely operation.

It is a mistake to rest and wait with a foreign body, however quiet, in the larynx or trachea unopened. There is no safety until it is removed.

MISTAKES IN DIAGNOSIS IN CHILDREN

Many a case of retropharyngeal abscess has been mistaken for tonsillitis. Less frequently, a passive edema of the pharynx, an angioma, a mucous cyst, or a gumma has been mistaken for an abscess.

In one patient 2 years old, a few weeks after diphtheria, when nasal intonation occurred, and difficulty of swallowing, the fluids returning through the nose, I was about to make a diagnosis of postdiphtheritic paralysis. But, on exploring the throat, I found retropharyngeal abscess, and close examination revealed the fact that both paralysis and abscess were present at the same time. Postpharyngeal abscess may readily be mistaken for paralysis or both may exist together.

Retropharyngeal abscess may be mistaken for uremia. The following case is contributed by Dr. Le Grand Kerr:

A boy of 3 years, afflicted with postscarlatinal nephritis, suffered from indefinite symptoms for three days, but with such marked prostration and mental dulness that the onset of uremic convulsions was feared. Dyspnea became more and more marked. During all of this period the child refused to partake of food. It was difficult to collect the urine and that was given as the excuse for its not being examined. Mouth-breathing finally became established and there was a free flow of saliva from the mouth. The prostration was the most marked feature of this illness. On the fifth day Dr. Kerr saw the child and an examination of the throat revealed, when the tongue was depressed, a very slight bulging of the posterior pharyngeal wall. Digital examination then confirmed the suspicion of abscess. Stenotic breathing was a noticeable feature of this case.

Quite recently, I was called by Dr. B. to see a little girl of 4 years. She had always been a delicate child. The present illness had lasted five weeks. It had begun as a pneumonia, and then developed an undoubted nephritis, with abundance of albumin and casts in the urine. The pneumonia and nephritis had subsided. The urine cleared up almost entirely. Some cough remained. But the child continued to have fever up to 102 and 103 or more; complained of pain in the right hypogastrium and loin, and had become so emaciated and reduced in strength that her death was expected from day to day, and from night to night. The attending physician had called in counsel one of the most noted practitioners of the city, who had made an exhaustive examination. Appendicitis, among other diseases, was suspected and excluded. It was thought likely a stone in the kidney was producing the pain and the fever; and it was advised that the child be transferred to hospital and examined with the *x*-ray for the purpose of detecting the stone. After hearing this history I examined the patient, with the result that I drew off with a trochar several ounces of pus from the right pleura, drained the cavity by a free incision the next day, and the child made a gradual, but uninterrupted and complete recovery.

It seems almost incredible that such a mistake could occur in the hands of competent men. This is explained by the fact that they were men more accustomed to handling adults than children. The severe pain in the hypogastrium and loin misled them. A pediatrist would have known that the pain of pleurisy in a child is just as apt to be referred to the abdomen as the chest; that

in the small body of a child a tympanitic percussion note from the stomach or intestines may be so transferred to the chest as to mask the dulness of an effusion or a consolidation, and that stone in the kidney of a child is comparatively rare, while purulent pleurisy is very common.

Pneumonia and pleurisy, especially, because of the pain associated with them, which is as frequently referred to the abdomen as to the seat of the lesion, have in numerous cases, when located on the right side, been considered as appendicitis. So deceptive may these cases be that a diagnosis of appendicitis should never be made, or at least a decision to operate never arrived at, until the chest has been most thoroughly examined by one accustomed to physical diagnosis in children. Of course, it is to be remembered that chest and abdominal inflammation may co-exist.

Dr. Elterich of Pittsburg considers empyema and intussusception the two surgical conditions which are most apt to be overlooked or to lead to mistakes in diagnosis.

Dr. Hollopeter states that the overlooking of a remaining effusion, which, as is well known, is apt to be or to become purulent, is the most common error he meets. Next in frequency he places neglected otorrhea requiring surgical intervention.

In this connection Dr. L. K. Shaw cites three cases in which diagnosis of appendicitis was made when the trouble was pneumonia.

Dr. Van Derslice recently related to me a case of pneumonia in an infant at which he arrived just in time to find the physicians, already in consultation, discussing the advisability of operating for intestinal obstruction.

Dr. E. H. Bartley of Brooklyn refers me to a case reported by him,[1] in which he assisted at an operation for appendicitis and found the ileocecal valve plugged with lumbricoid worms.

Speaking of wrong reflection of pain by children reminds me that I have several times seen a persistent and troublesome abdominal pain treated by all sorts of attention to the digestive tract, when the real cause of it was caries of the spine. The spinal nerves near the lesion were irritated and caused the pain, but this was referred to the point of distribution of the irritated nerves in or on the abdomen. Meantime, the serious tuberculous inflammation in the vertebræ was neglected, because no curvature had yet appeared and the physician failed to recognize the early signs, which are quite as distinctive. A lateral curvature may cause abdominal pains, but when it does the curvature is usually so marked that it could scarcely be overlooked. Again, it is not uncommon to see a spinal curvature due to rachitis mistaken for an angular curvature and the condition aggravated by loading the weak frame with a plaster jacket or a brace. This is a quite unpardonable mistake.

A case which occurred but a couple of months ago illustrates a typical mistake and brought freshly to my attention a class of cases in which mistakes too frequently occur:

Marion P., a well-grown, beautiful babe of 9 months, had been sick ten days at the time I was called in consultation. The history showed a sudden onset of the illness, with pain, evidently paroxysmal, judged by the screaming spells induced, with vomiting which, on the following day, brought up greenish fluid, and with frequent small bowel movements with straining which discharged a small amount of fecal matter together with mucus and blood. A diagnosis of gastro-enteritis was made by the attending physician and the usual remedies used. The acute character of the symptoms abated, but did not cease. The diagnosis was modified to ileocolitis, which might run a course extending over weeks. But, as the second week advanced without cessation of the symptoms, the parents became alarmed and requested counsel. With a dim suspicion of appendicitis or of intussusception in mind a general surgeon was called in. The diagnosis of ileocolitis was confirmed, intussusception being considered, but excluded because of the presence of fecal matter in the discharges, and because of the length of time the illness had continued without fatality. On seeing the case, the first thing that struck me was the facial expression of the infant, a peculiar expression of distress and hopelessness that the face assumes in cases of intestinal obstruction. On hearing the history—the sudden onset, the paroxysmal character of the pain, the amount of the blood passed, the severity and persistence of the symptoms without a corresponding height of fever,—I was almost convinced that the condition was one of accident, rather than of disease. Then, in spite of objections, I insisted on examination under anesthesia and found what I had expected to find, namely, a tumor, that peculiar crescent-shaped tumor characteristic of the intussusception. It was lying deep, above and to the left of the umbilicus, with its concavity toward that landmark. It could be easily moved about and picked up in the fingers, and handling it brought on a paroxysm of pain and tenesmus. There needed nothing to complete the diagnosis. Within the hour the bowel was completely reduced by measured aerohydrostatic pressure, and the babe promptly recovered.

I have seen a case of intussusception of as much as three weeks' standing, with the mass descended as low as the rectum and even projecting through the anus, treated for dysentery together with rectal prolapse. My notes contain reports of several cases which had been mistaken for either dysentery or prolapse of the rectum.

Dr. J. Ross Snyder of Birmingham furnishes the following case:

The patient was a 3-year-old boy. After being ill with bowel trouble for several weeks, the patient awoke screaming in the middle of the night, complained of great pain in the abdomen and vomited very often. Next day he had dysentery, so called, which was checked by bismuth, but the movements still contained mucus and pus. The boy complained continually of pain in the abdomen and could not sleep. This persisted for eight days, when a tumor in the abdomen was discovered. After two days more Dr. Snyder was called in consultation with the family physician and a surgeon well known locally, who had agreed on a diagnosis of a diseased kidney, because the tumor was near the region of the right kidney and the boy cried out at each urination. Dr. Snyder convinced his confrères that the trouble was intussusception. The patient died ten hours after an operation which, if performed earlier, would probably have saved his life.

Dr. Snyder relates also the case of a babe of 16 months with a gastro-intestinal infection in which the conservative diarrheal process was not established, but in which the toxemia had paralyzed the bowel. This case was diagnosed by a surgeon as intussusception.

Dr. Cattermole relates the history of a case in which he made a diagnosis of sarcoma of the kidney in a young child. A surgeon was consulted, who advised against operation, not from any unusually conservative spirit, but because he did "not know what could cause such a condition in a child." Autopsy revealed the sarcoma, which evidently originated, as is often the case, in the suprarenal gland.

I cannot recall the number of times I have seen children wearing a truss on a hydrocele under the supposition that it was a hernia. To be sure, hydroceles of the cord or of the canal of Nuck, in which this mistake

1. Bartley, E. H.: Arch. Pediat. 1898, p. 272.

is usually made, occupy the position of an inguinal hernia, yet there is little if any excuse for a mistake in the diagnosis, if only the possibility of these forms of hydrocele be borne in mind, as the diagnostic signs are usually distinctive. I have seen a truss worn on undescended testicle supposed to be hernia—a blunder quite inexcusable, in view of the obvious diagnosis of the latter condition.

A few days ago a case of a new-born babe was referred to me with the statement by the physician that the penis was imperforate and that the babe had passed no water all the day of his birth. The physician had tried to find the urethra by making a puncture with a narrow-bladed bistoury through the glans in a longitudinal direction, but his effort was in vain. On examination it proved to be one of those not infrequent cases of hypospadias in which the urethra ends, a half inch or more posteriorly than it should, in a membrane so thin that its margin is invisible. In this case a small probe, directed in the proper direction, readily located the attenuated margin and found the urethra, which was patulous throughout, and a small catheter was passed, a small amount of urine being found in the bladder. The child soon urinated naturally and of course no operation at all was necessary. Through the employment of a little diplomatic talent the almost ludicrous blunder, which might have ended in several varieties of trouble, was prevented from becoming obvious to the family.

It is far too common to find hip-joint disease mistaken for disease of the knee-joint, because of the pain referred to in the latter location. It is not at all unusual to find a knee stained with iodin or blistered or abraded by the use of liniments, or even to find it encased in a splint, for a trouble located as far away as the length of the femur. And this not merely in the hands of the laity, but, I am sorry to say, sometimes under the advice of a physician. The disease supposed to be affecting the knee-joint in these cases is usually rheumatism. And, on the other hand, many a case of tuberculosis of the knee-joint and of some other joints, as well as cases of acute arthritis and of acute osteomyelitis, have gone on to irreparable damage while being treated under this mistaken diagnosis of rheumatism. As I have before remarked, "the scapegoats of puzzled medical pediatricians are teething and worms; the scapegoat of joint and bone surgery in childhood is rheumatism."

Dr. Le Grand Kerr contributes the following report:

A male infant, 18 months, was taken suddenly ill with high fever which fluctuated almost hourly and was accompanied with marked prostration and nervous symptoms. The left lower limb was held rigid, and severe pain was elicited about the knee-joint and ankle. There was redness, but no swelling. On the third day of such symptoms, the infant was sent to the Williamsburg Hospital with diagnosis of rheumatism. Examination now showed some swelling about the knee and ankle as well as redness and severe pain on handling. Fluctuation was detected on the fourth day. Complete operative procedure brought relief.

The following, also contributed by Dr. Kerr, illustrates how easily syphilitic periostitis may be mistaken for rheumatism:

A boy, 5 years of age, was sent to my service at the Seney Hospital (1909) with diagnosis of acute articular rheumatism. The knee was much swollen and reddened, and very painful. Temperature slightly elevated (100.2 F.) The child had been subject to frequent attacks of sore throat. Examination showed the knee-joint swollen, reddened and painful in front and at sides, but at back of joint slight fluctuation was elicited. Incision was accompanied by free flow of pus. There was slight redness and swelling about one wrist and incision released a small amount of pus. With specific treatment recovery began at once.

Dr. Charles Douglas of Detroit reports several interesting cases in which scorbutus was mistaken for other conditions. The first case had been treated by one physician for rheumatism, and then by another physician for fracture of the neck of the femur or a dislocation, and, after plenty of manipulation, the limb had been put up in splints. Another patient with scorbutus presented two bluish swellings, one on the back of each hand. A surgeon was consulted and advised operation for their relief. Another surgeon saw them and acknowledged ignorance of their character. Both of these patients recovered quickly on orange-juice and raw milk.

A babe returned to Detroit after a summer in the Lake Superior region. It had staphyloma of both eyes, one being very large and ready to rupture. The oculist treated it locally and gave a hopeless prognosis for one eye, but hoped to save the other. When the case came under the care of the pediatrist raw food and orange-juice worked an immediate improvement, and a final cure, though leaving a large scar on the worst eye. The oculist was delighted and acknowledged to the pediatrist that the latter had saved the eye.

Dr. Douglas relates another instance in which a pronounced case of rickets was treated for rheumatism.

Dr. Shaw writes: "I have seen a surgeon excise a tumor on the leg which turned out to be a large blood-clot due to scurvy. I have seen a baby entered in the surgical ward with a diagnosis of sarcoma of the shoulder, which was infantile scorbutus, and cleared up in a few weeks with orange-juice."

Two boys, from their second or third years on, showed extensive contusions from any slight bump and when the eighth year was reached they suffered with joint swellings, the knees and elbows being most affected. These joint swellings would last from ten to fourteen days accompanied with pain, loss of function and discoloration. After repeated recurrences the joint attacks disabled them from all work or exercise, since extension of the joints was impossible by reason of the tenderness and swelling. When the elder brother was 18 years of age a surgeon, disregarding the history of the cases and the clinical condition which should have been sufficient to warn him of the presence of hemophilia, made the mistake of undertaking an operation. He tried to straighten the right knee by tenotomy of the hamstrings. The hemorrhage was not profuse at first, but it was most obstinate, and the first dressing was left on three days. Removal of the bandages was followed by renewal of hemorrhage which took place both externally and into the tissues subcutaneously. And this hemorrhage continued in spite of all efforts to control it until the eleventh day after the operation, when he died. (The younger brother of this boy died in his seventeenth year of a spontaneous hemorrhage).

Another mistake by another surgeon occurred in a connection of the same family, as follows: A nephew of these two boys manifested in his second year the swellings and discolorations of joints and the tendency to acquire contusions, characteristic of hemophilia. When he was 2 years old a slight cut on his finger bled four days. When 4 years old he accidentally bit his tongue and the wound bled three weeks. A small punctured wound on his chin bled nine days. When a few years older, a small cut on his brow received while coasting was repaired by two sutures. Six days later a large secondary hemorrhage occurred. Now a surgeon was called in. He heard the history of the case, but said he "didn't believe in bleeders"; that the trouble was all because people didn't know how to control hemorrhage; and that some doctors also were afraid of a little blood. In his opinion this hemorrhage

was caused by a vessel, deeper in the tissues, wounded but not completely divided. He enlarged the wound to search for the wounded vessel. The bleeding which followed could not be controlled by ligatures, sutures, or even by forceps which were left attached to the wound, but which broke away with the sloughing tissues, bringing the ligatures and the sutures with them. All known styptics were used but the blood continued to ooze during five days. Then, when the boy was nearly dead it ceased spontaneously, and the wound healed leaving a frightful scar. It is to be hoped that ere this the surgeon realized that he had made a mistake in not paying heed to the history, and in not believing in "bleeders."

Syphilitic osteochondritis, sometimes called osteochondrosis or perichondrosis or epiphysitis, will in rare cases cause a separation of the epiphysis from the shaft, and will produce the lesion so promptly and unexpectedly that it is mistaken for a traumatic separation. In more instances this affection has been mistaken for rheumatism or for scurvy. As an instance I will cite a case from Dr. Kerr:

A female infant one month old, suddenly developed inability to move one lower limb. The parents denied history of syphilis and the infant did not exhibit any of the usual manifestations of syphilis except a slight, but persistent rhinitis. As sterilized milk had been used from birth, the diagnosis was made of scurvy. When Dr. Kerr saw her in consultation, the left lower limb was immobile and the infant screamed at the slightest touch. A slight swelling was noted at the epiphyseal line. When direct questions were avoided and the history taken cautiously as to events in the lives of the parents, the history of syphilis was established. Later this infant exhibited many of the other manifestations of syphilis.

Traumatic separation of an epiphysis is notoriously apt to be mistaken for a dislocation, which it much resembles. This mistake occurs more often in injuries at the elbow than at any other joint in the body.

Zahorsky notes a case in which a periglandular edema (accompanying scarlatinal adenitis) was mistaken for abscess and was lanced with the expectation of discharging pus. But no pus was found. I am certain a number of us have seen the same mistake made. I certainly have, on several occasions.

Dr. Le Grand Kerr reports the following: A boy of 3 years was taken suddenly ill after a fall, with fever, vomiting and diarrhea, and within twenty-four hours it was noticed that the child did not move the arm. The general symptoms cleared up in four days (evidently owing to digestive disturbance following the shock of the fall), but the inability to move the arm persisted. In consultation on the sixth day, examination revealed a fracture of the clavicle. This illustrates a mistake which is very frequently made.

OVERESTIMATING VITALITY OF THE INFANT

It is a common mistake to overestimate the vital power of an infant and to undertake to put it through an operation too severe for it to withstand—such an operation for instance as that of forcing together the sides of the cleft in cleft palate when performed on a weakly young infant as in the Brophy operation. The chances of death following this procedure are far too many to justify it in the great majority of cases. Another example is that of rib resection in a weakly child of less than 18 months for empyema. A third instance is extensive resection of bowel in intussusception.

JUDGMENT IN USE OF SURGICAL PROCEDURES

But for the fact that it would consume too much time, I could give details of cases to illustrate the fact that often the administration of an anesthetic in an infant or young child with bad digestive organs may, by the nausea and vomiting it produces, lead to inanition, resulting ultimately in death, days or even weeks after the anesthesia. The anesthesia and the operation may at the time have been perfectly safe and pronounced successful, but it was a mistake to excite the gastric difficulty by an anesthestic in a patient thus predisposed. A good illustration of this point is the following from Dr. Zahorsky:

Twins, 2 months old, artificially fed, were suffering from clubfoot. They were operated on, chloroform being used for anesthetic. Following the operation, vomiting occurred, followed by indigestion and atrophy. Both died about five weeks after the operation.

The same observer related to me the following instructive case:

A boy, aged 7 years, had an osteomyelitis of the left tibia which resulted in denudation of almost the entire bone and extensive necrosis so that the lower two-thirds of the shaft had to be removed. The wound healed, and subsequently the surgeon attached the upper end of the fibula, which had remained sound, to the remains of the tibia. The result of the operation was very good. But three months later it was found that the tibia had been entirely reformed by its periosteum.

Moral: The surgeon should have known that this spontaneous repair was likely to occur. Thus the osteoplastic operation was not only entirely unnecessary but the outcome of the case would have been better without that operation, if only time had been allowed for Nature's reparative work to take place.

The cases are too numerous to count in which mistakes have been made in the employment of antiseptic solutions in common use in surgical practice, but too strong and irritating for the delicate texture of the integument of the young. Ordinary solutions of mercuric chlorid used in moist dressings will often produce a dermatitis and, in the use of phenol in strong solutions or over large areas, phenol poisoning has not infrequently occurred.

Twice within the past five weeks and many times before, have I seen the mistake made of dressing an extensive scald or burn too hurriedly for strict antisepsis and without an anesthetic.

I think that in these days of antiseptic surgery, scalds and burns are more frequently badly dressed than any other kind of wound. An extensive scald or burn is a serious injury in a child, and even a small one may become infected and give rise to serious results. An anesthetic should be administered to relieve the suffering and diminish the shock, and then the wound should be as thoroughly cleansed as if it were an extensive laceration, and the chosen dressing applied. Then the case will probably progress as a clean wound instead of an infected, poisonous and vile-smelling one, as is too often the case, probably ending with toxemia with tetanic symptoms in about the third or fourth week.

It is a mistake to suppose that anesthetics are without danger in cases of infants and children. Three times in my life I have encountered such knee-shaking experiences as have given me a very wholesome respect for the dangers of anesthesia in children. It is true that the heart and kidneys of the young are less likely than those of their elders to be diseased, and that ordinarily children bear anesthesia better than their elders, with less nausea, from which they more quickly recover; but they do not well endure prolonged anesthesia; and the danger of sudden failure of respiration or of the heart is a very real one.

A mistake one not infrequently sees in visiting various clinics and operating-rooms is unnecessary exposure of the child during operation. Children, with their small bulk and thin and vascular skin, part very rapidly with their animal heat, and exposure of the surface, especially if it be a wet surface, to the air often induces chill and increases shock. During operation every particle of surface not necessarily exposed should be kept dry and covered and extra warm.

CONCLUSIONS

These are but a few examples among many that could be cited, which show not only that it is easy to make mistakes in surgical practice, but that it is extremely easy to make them in the surgery of children; that many conditions may be present in the child which never or seldom occur in the adult; that it is a great mistake to suppose that surgical conditions in the child present the same phenomena, pursue the same course, are followed by the same results and can be handled in identically the same manner as conditions bearing the same name, but exhibited in the adult patient; that many mistakes are made which are entirely unnecessary and inexcusable and would not be made, if the profession possessed the proper knowledge of children and their surgical conditions.

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ABSTRACT OF DISCUSSION

DR. FRANK GENGENBACH, Denver: No doubt all of us could recite instances similar to those recited by Dr. Kelley. I wish to relate an instance in which several mistakes were made. About eight years ago, while I was on duty in the hospital a boy was sent in with a diagnosis of appendicitis. About all I could find was the symptom of pain referred to McBurney's point. After an examination of the chest I found increased cardiac dulness, but the heart sounds were clear. Posteriorly I heard bronchial breathing, and I made a tentative diagnosis of bronchopneumonia. He had irregular temperature, some cyanosis and some dyspnea. The next day the symptoms were, if anything, worse. The area of dulness still persisted and the breath sounds and heart sounds were still as clear as ever. I suggested the possibility of a purulent pericardial effusion. The next day the symptoms were so bad that we did a pericardial paracentesis and withdrew some pus. The surgeon was called in and he accepted my diagnosis as correct, and decided to resect some ribs and empty the pericardial sac. Just before the operation one of my confrères examined the boy and said my diagnosis was incorrect and that I had probably gotten into a sacculated pleuritic effusion. The chest was tapped in several places with negative results. Resection of the ribs was then performed and nearly a quart of pus evacuated. The patient did very nicely and I went off duty shortly afterward. A few days later I was asked to come at once, as the intern was unable to get the surgeon and the boy was *in extremis*. When I reached the hospital the boy was dead. We performed an autopsy and found nearly a quart of pus in the sac. The drainage tube had been taken out too soon, and a reaccumulation of pus had caused death.

DR. JOHN ZAHORSKY, St. Louis: I think the most common mistake I have seen is circumcising the young baby during the first few days of life because he does not pass any urine. Often they pass no urine because they do not get any fluid. Again, I have seen them circumcised on the eighth or tenth day in the presence of intense icterus. I think icterus is a contraindication. Another thing is the applying of strong antiseptics. A recent mistake I saw occurred in an infants' hospital in a case of septic urethritis. An *x*-ray was taken and it was thought to be a condition of the femur, but it was found to be septic urethritis. I had a case of acute scurvy treated as a case of inflammation of the hip-joint. There was no evidence of scurvy in any way, except that the child had been taking food for months that frequently produces scurvy. In one case the physician was called to see a child that had stenosis of the larynx and he thought it was diphtheria. He injected four or five thousand units of antitoxin and sent for me to intubate. Just before I arrived the child coughed up a piece of peanut shell. The parents thought that this excellent result was due to the injection. We have often seen posterior laryngeal abscess diagnosed as diphtheria. One child had a stenosis of the nose and the surgeon thought it was laryngeal obstruction. In another case there was a large post-pharyngeal abscess and I was asked to intubate because it was thought to be a laryngeal stenosis.

DR. S. W. KELLEY, Cleveland, Ohio: My primary object in writing this paper was to draw attention to the fact that inasmuch as pediatrics has been cultivated more by physicians than by surgeons, it has come about that through ignorance of pediatrics by certain surgeons and ignorance of surgery by physicians many mistakes are made, and children suffer and sometimes die as a consequence.

RESULTS OF EXPERIENCE WITH NOGUCHI MODIFICATION OF THE WASSERMANN SERO-DIAGNOSIS TEST FOR SYPHILIS*

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In selecting a method for the performance of the complement-fixation test of syphilitic sera, we were influenced by several factors, chief of which were the following:

In studying the different methods carefully and comparing the results obtained by different workers, we were impressed by the apparent accuracy of Noguchi's modification of the Wassermann test as shown by Noguchi[1], Fox[2], Swift[3], and others.

It was also much more convenient to secure human than sheep's blood for immunizing our rabbits and for the corpuscle suspension used in the test.

This paper is not intended to criticize any one method or to compare the efficiency of the different methods; but to give the results and conclusions drawn from the examination of four hundred and ten sera by Noguchi's method.

The majority of the patients were private patients of Drs. Hyde and Ormsby. The control specimens of syphilitic blood were secured from patients in Cook County Hospital.

Technic of the Test.—The technic employed was practically that originally recommended by Noguchi and described by him. A few minor changes were made in the method of securing some of the materials necessary for the test, but these had no relation to, and changed in no respect, the method of procedure in the test.

Five factors are employed in the test: antigen, complement, amboceptor, patient's serum, and human corpuscles.

Antigen.—The antigen used in this series was very kindly furnished by Dr. William T. Mefford, of Chicago. It was an alcoholic extract of a syphilitic liver and prepared by him. It was standardized by us according to the outline given by Noguchi.

Preparation of the Complement.—In the majority of cases, old guinea-pigs give the most satisfactory complement. I have found the most convenient and efficient method of securing the blood to be as follows:

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* Read in the Section on Dermatology of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, 1910.

1. Noguchi: Serum Diagnosis of Syphilis, 1st Edition, 1910.
2. Fox: Jour. Cutan. Dis., xxvii, 338-357.
3. Swift: Arch. Int. Med., iv, pp. 376-404.

The pig is anesthetized, the precordia shaved and sterilized and with a sterile syringe and needle sufficient blood for the test in hand is withdrawn from the heart. With a little practice and experience, difficulty is rarely encountered in piercing the heart with the needle. As much as 5 c.c. may be withdrawn from a good sized animal; from 5 to 10 c.c. N. NaCl are then injected into the peritoneal cavity in order that the vitality of the animal may remain at par. After the blood is withdrawn, it is permitted to clot at room temperature, the serum is removed with a pipette and placed in the ice box till ready for use. I never use a complement over thirty-six hours old.

The results in the earlier cases of this series clearly indicated that the sera of guinea-pigs varies greatly as to the amount of complement present. This undesirable feature was remedied in the following manner:

In securing the blood, as described, the life of the animal is spared and its health does not seem to be impaired. The serum from each animal is standardized according to Noguchi's directions as to the strength of the complement present; and after the first serum from each animal is tested, the additional labor of standardizing the complement every time a test is made, as suggested by Clark,[4] is dispensed with. Furthermore, in private laboratories and in isolated districts where difficulty is encountered in securing guinea-pigs, it is very essential that the life of the animal be spared. Some of our guinea-pigs have been bled eight or ten times at intervals of three weeks, and the titer of the complement of each animal remains unchanged.

Preparation of Amboceptor.—A rabbit, preferably an old male, is immunized against human corpuscles as follows:

The blood from a normal individual is obtained by venipuncture from the arm, placed in sterile centrifuge tubes, defibrinated by stirring briskly with a piece of firm twisted wire. After being centrifuged the serum is removed with a pipette and the corpuscles washed with normal salt solution. After three washings, the supernatant NaCl solution being pipetted off each time, the suspension is made up with salt solution to the original amount of blood. It is then injected into the peritoneal cavity of a rabbit in increasing quantities and at intervals of five days, beginning with 3 c.c., then 6 c.c., 9 c.c., 12 c.c., 16 c.c., and lastly 20 c.c. Eight to ten days after the last injection, two or three c.c. of blood is withdrawn from the heart in the same way as when taken from the guinea pig, the animal being anesthetized. The serum is inactivated and tested as to its hemolytic properties as suggested and outlined by Noguchi. If the serum is found to contain an amboceptor of from .003 c.c. to .008 c.c. titer, 15 or 20 c.c. of blood are taken from the heart and immediately the same amount of salt solution is injected into the peritoneal cavity. At intervals of ten or twelve days, about 10 c.c. washed human corpuscles are injected into the rabbit. In this manner, an animal producing a good amboceptor can be kept indefinitely, and a fresh amboceptor of sufficient strength is always at hand.

Owing to the fact that so many rabbits after being injected are not satisfactory, it is very desirous that when we secure a good animal it be kept as long as possible. If after one series of injections the serum does not contain sufficient hemolytic properties, another series of injections may give a serum of the desired strength.

Blood to be Tested.—From 1.5 to 2 c.c. of the patient's blood is secured from the lobe of the ear, which has been properly cleansed. A puncture is made with a straight, three-cornered, sharp, surgeon's needle, which makes an opening sufficiently large so that the blood as a rule flows quite freely. It is collected in a glass tube that has been drawn out to a capillary point and bent in U-shape, the capillary arm being much the shorter. The small opening must be sufficiently large so that the lumen will not be occluded by the clotted blood before a sufficient quantity has been obtained. By making a good deep puncture, then gently squeezing the lobe, the drops are forced out; the capillary end of the tube is placed against the drop, which is drawn into the tube by capillary attraction. The tube should be held in the horizontal position. Difficulty is rarely experienced in getting sufficient blood in this way and it is usually less painful and disagreeable to the patient than when taken from the finger or by venepuncture. The specimen of blood is kept at room temperature for three or four hours, during which time the clot forms and the serum separates. The latter is withdrawn by a pipette, the rubber bulb on the pipette being perforated in order to control the serum better, inactivated by heating to 56° C. for thirty minutes and then placed in the icebox. It is advisable to make the test as soon as possible after the blood is procured. However, when the serum is inactivated and kept in a cool place it may be kept for several days. A strongly positive syphilitic serum was kept in the icebox several months with no impairment of its strength.

Suspension of Normal Corpuscles.—Two graduated centrifuge tubes are desirable in preparing the suspension. Into these is put a definite amount of normal salt solution. Blood is secured from the finger, a tourniquet having been applied and then the puncture made. The blood is permitted to drop into the tubes of salt solution in the proportion of one drop to 4 c.c. salt solution. The number of specimens to be tested will determine the number of drops to be drawn. The corpuscles are washed twice, after which the proper suspension is made. Two tubes are required for each serum to be tested, 1 c.c. of the quarter drop suspension being placed in each. A fresh suspension will usually give better results than corpuscles kept in the icebox for one or more days. Hemolysis is more complete in the control tubes and the contrast in a very mildly positive case more pronounced.

After the material for the test is prepared an outline similar to that in Table 1 is used.

TABLE 1

	Tube number.	Inactivated serum, .08 c.c., 4 capillary drops.	Antigen, 1 unit.	Complement, 2 units.	Corpuscle suspension, 1 c.c., ¼ drop.	Amboceptor, 2 units.	Result.
Patients' serum.....	1	+	+	+	+	+	?
	2	+	0	+	+	+	Hemolysis
Positive syphilitic serum	3	+	+	+	+	+	No hemolysis
	4	+	0	+	+	+	Hemolysis
Normal serum.....	5	+	+	+	+	+	Hemolysis
	6	+	0	+	+	+	Hemolysis
	7	..	+(2)	+	+	+	Hemolysis
	8	..	..	+	+	+	Hemolysis

The tubes are numbered and arranged in a suitable rack or holder. One unit antigen, two units complement (usually from .03 to .04 c.c.), .08 c.c. of the inactivated patient's serum or four capillary drops are placed in tube 1. The same, with the exception of the antigen, which is omitted, is placed in tube 2. In tube 3 is the same amount of antigen, complement and corpuscle suspension, but positive syphilitic serum is added in place of the serum to be tested. Tube 4 is the same as tube 3, except that antigen is again omitted. Tube 5 contains normal serum with antigen, complement, and corpuscles. The antigen is again omitted in tube 6, the other material being the same. Tube 7 contains two units antigen, complement and corpuscles. Double the amount of antigen is added to this tube to see if it will inhibit hemolysis. Tube 8 contains complement and corpuscles. The tubes are shaken up well, then incubated for one hour at 37 C. Two units of amboceptor are then added to each tube and all the tubes are again incubated at the same temperature. Progress in the process of hemolysis should be closely observed. When hemolysis is complete in the control tubes, 2, 4, 5, 6, 7, and 8, and if there is complete inhibition to hemolysis in tube 3, the result in tube 1 is noted.

In part of the cases of this series additional control tubes were used, in some of which the complement was omitted, and in others the amboceptor was not added. But when the controls, as used in above table, are satisfactory, they seem to be amply sufficient.

The sera from fifty-two patients representing thirty-two diseases other than syphilis gave the results shown in Table 2.

4. Clark: Jour. Infect. Dis., vii, p. 476.

The entire list was negative with the exception of one case of general paresis and seven cases of tabes which were positive; six cases of tabes being negative. There were also thirty cases of hypochondriacal syphilis and thirteen normal sera, all of which were negative.

In Table 3 are two hundred and ten cases in each of which is given the duration of infection, the type of lesion, if any was present, the treatment including both remote and recent, and the result of the test.

TABLE 2.—DISEASES OTHER THAN SYPHILIS

Disease.	Number of Cases.	Result.	
		Positive.	Negative.
Acne	1	0	1
Blastomycosis	3	0	3
Brain tumor	2	0	2
Adenoma	1	0	1
Eczema	1	0	1
Tabes	13	7	6
General paresis	1	1	0
Granuloma	1	0	1
Dermatitis	3	0	3
Chorioiditis	1	0	1
Cancer	3	0	3
Scleroderma	1	0	1
Chancroid	6	0	6
Keratosis palmaris	1	0	1
Salpingitis	1	0	1
Urethritis	1	0	1
Lichen planus atrophicus	1	0	1
Morphea	1	0	1
Morphea guttata	1	0	1
Hepatic cirrhosis	1	0	1
Lymphatic leukemia	1	0	1
Cellulitis	1	0	1
Psoriasis	2	0	2
Papilloma	1	0	1
Pruritus hiemalis	1	0	1
Osteomyelitis	1	0	1
Periostitis	1	0	1
Tuberculous arthritis	2	0	2
Sarcoma	1	0	1
Leucoplakia	3	0	3
Dermatitis exfoliativa	1	0	1
Pityriasis rubra pilaris	1	0	1
Normal sera	13	0	13
Syphilis (hypochondriacal)	30	0	30

TABLE 3.—SYPHILIS †

Case No.	Duration of Infection.	Type of Lesion.	Treatment.		Result of Test.
			Remote.	Recent.	
1	2 years	Late	None	None	+++
6	1½ years	Late	None	None	+++
8	1 month	Early	None	None	+++
9	1 year	Late	None	None	++
10	8 months	Early	None	None	+++
11	5 years	Tabes	1 year	Intermittent	+
12	1½ years	No signs	Continuous	Continuous	—
13	9 months	No signs	Continuous	Continuous	+
14	3½ years	No signs	3 years, Intermittent.	Continuous	—
15	5 weeks	Early	None	None	+++
17	3 years	No signs	Continuous	Continuous	—
20	11 months	No signs	Continuous	Continuous	—
22	15 months	Late	Continuous	Continuous	—
24	4 months	Early	Continuous	Continuous	—
28	2 months	Early	None	None	+++
29	3½ years	Late	2 years	None	—
30	11 months	No signs	Continuous	Continuous	—
31	4 years	No signs	2 years	Few months	+
32	2 years	No signs	Continuous	Continuous	—
36	8 years	No signs	Unknown	None	+
37	2 years	Late	Continuous	Continuous	—
39	7 years	Late	Unknown	6 months	+
41	5 weeks	Early	None	None	—
44	5 years	No signs	3 years	None	—
45	2 weeks	Early		None	++
52	18 years	Late	Unknown	6 months	+
58	1½ years	No signs	Continuous	Continuous	—
60	1½ years	No signs	Continuous	Continuous	+
61	2 years	Late		2 years	—
62	5 weeks	Early	None	None	+++
63	2 years	Late		2 years	+
67	2½ years	No signs		2½ years	—
68	22 years	Late	Unknown	None	+
69	3½ years	No signs	Continuous	Continuous	+++
70	2 months	Early (ch.)	None	None	—
72	3 months	Early	3 months	None	+
73	3 years	No signs	3 years	None	—
76	1 year	No signs	Continuous	Continuous	—
77	16 years	No signs	1½ years	None	—
78	Not K.	Late	Unknown	1½ years	+
79	3½ years	No signs	Intermittent	Intermittent	—
82	15 months	No signs	Continuous	Continuous	+
83	15 years	Late	3 years	None	+
84	5 months	Early		Continuous	+
85	15 months	Early		Continuous	—
86	9 years	Tabes	2 years	Intermittent	—
87	3 years	No signs	3 years	Intermittent	+
88	7 weeks	Early	None	None	+++
89	3 months	Early	None	None	+++
91	2½ years	No signs	2 years	None	—
93	4 years	No signs	2 years	None	+
94	12 years	No signs	Not known	2 years	+
95	4 years	No signs	2 years	Intermittent	—
96	4½ years	No signs	2 years	5 months	+
97	2 years, 3 mos.	Late	Continuous	Continuous	++
98	7 years	No signs	3 years	None	—
100	2 years, 5 mos.	No signs	2 years	None	++
102	4½ years	No signs	2 years	None	—
103	13 months	No signs	Continuous	Continuous	+++
104	8 years	No signs	2 years	None	—
105	15 years	No signs	2½ years	None	—
109	3 years	No signs	20 months	None	—
111	1 year, 9 mos.	No signs	Continuous	Continuous	—
112	13 years	No signs	Continuous	Continuous	++
114	7 years	Late	2½ years	None	++
115	3 years, 4 mos.	No signs	3 years	None	+
116	7 years	Late	2 years	None	+
117	9 years	Tabes	2 years	None	++
118	3 years, 9 mos.	No signs		3 years	++
121	15 months	No signs	Continuous	Continuous	—
123	8 years	Late	3 years	None	—
125	1 year, 8 mos.	No signs	Continuous	Continuous	—
126	4 years	No signs	2 years	None	—
128	2½ years	No signs	Continuous	Continuous	++
129	5 months	Early	Continuous	Continuous	+++
132	5 years	Late	Continuous	Continuous	+
133	15 months	No signs	Continuous	Continuous	+
134	20 years	No signs	Intermittent	None	—
135	Denied	Alop	Not known	None	+++
136	15 years	Headache	Much	Much	+++
137	2 years	No signs	Continuous	Continuous	+++
138	9 years	Tabes	2 years, intermit.	None	+
139	3 years	No signs	2 years	None	++
141	8 years	No signs	Much	None	—
142	5 weeks	Early	None	None	+++
145	2 years	No signs	Continuous	Continuous	—
147	18 years	No signs	2 years	None	+++
148	14 years	No signs	4 years	None	—
149	2 years	Late	Not known	None	+++
150	8 years	No signs	About 3 years	None	+
151	25 years	Tabes	Much	300 gr. K.I. daily	—
153	10 years	Late	2 years	None	—
154	3½ years	Late	3 years	None	—
158	6 weeks	Early	None	None	+++
159	2 months	Early	None	None	++
160	15 months	Early	1 year	1 year	+++
161	Not known	Early	None	None	++
163	5 years	No signs	1½ years	None	+++
164	38 years	No signs	Not known	None	+
166	15 years	No signs	Considerable	None	—
168	1½ years	No signs	None	15 months	+
169	Congenital	Early	None	None	+++
173	20 years	Headache	Not known	None	+
174	3 years	No signs	1½ years	None	+
175	9 years	No signs	Almost continuous.	Almost continuous.	—
176	2 years	Late	Almost continuous.	Almost continuous.	+
177	2 years	Late		2 years	+
180	20 years	Late	Not known	None	—
181	4 weeks	Early	None	None	++
182	5 years	No signs	2 years	None	—
183	1½ years	No signs	Continuous	Continuous	—
185	2 years, 3 mos.	No signs	Almost continuous.	Almost continuous.	—
188	3 years	No signs	Continuous	Continuous	+
189	10 months	Early		Few months	++
190	5 years	No signs	2 years	Intermittent	—
192	8 years	No signs	3 years	None	—
193	1 year	No signs	Continuous	Continuous	—
194	5½ years	Generalized alopecia.	2½ years	None	+
195	1 years	Late	2 years	Intermittent	+
196	17 years	No signs	Not known	None	+
198	5 months	Early		Continuous	+
200	5 months	Early	None	None	++
201	1 year	No signs		1 year	—
202	2½ years	No signs	Continuous	Continuous	—
203	5 years	Late	Not known	None	—
205	5 weeks	Early	None	None	++
207	2 years	No signs	Continuous	Continuous	—
210	Not known	No signs	Not known	2 years	+
213	9 months	No signs	Continuous	Continuous	+
214	5 years	Late	2 years	None	+
215	2½ years	No signs	Continuous	Continuous	—
220	1 month	Early	None	None	+++
221	8 years	Late	Almost continuous.	Almost continuous.	+
222	3 years	No signs	2 years	None	—
223	1½ years	No signs	Continuous	Continuous	+
224	3 years	No signs	2 years	None	—
225	7½ years	No signs	2 years	Intermittent	+
226	14 years	No signs	2 years	None	—
227	8 years	No signs	About 2 years	None	—
229	6 months	No signs		Continuous	++
230	7 years	Late	2 years	Intermittent	+
234	12 years	No signs	Moderate amount	None	—
236	3 years	No signs	2 years	None	—
237	10 years	No signs	2 years	None	—
238	1 year, 9 mos.	No signs	Continuous	Continuous	—
240	3 months	Early		2 months	+

TABLE 3.—(Continued)

Case No.	Duration of Infection.	Type of Lesion.	Treatment.		Result of Test.
			Remote.	Recent.	
241	20 years	Late	Much	Intermittent	++
242	15 years	No signs	2 years	None	—
244	9 years	Late	About 2 years	None	+
245	9 months	Early		Few months	+
250	15 months	No signs	Continuous	Continuous	—
251	3 months	Early	None	None	+++
252	12 years	No signs	2 years	None	—
254	15 months	Late	Continuous	Continuous	+
258	5 weeks	Early	None	None	+++
259	15 months	Late	Continuous	Continuous	+
262	1½ years	Late	Almost continuous.	Almost continuous.	+
263	1 year	No signs	Continuous	Continuous	+
264	8 years	No signs	About 2 years	None	—
271	6 weeks	Early	None	None	+++
279	1½ years	No signs	Almost continuous.	Almost continuous.	—
280	23 years	No signs	Not known	Intermittent, 14 years.	+
282	3 years	No signs	1½ years	Intermittent	+
283	22 years	Late	Not known	9 months	—
285	3 years	No signs	About 2 years	None	—
289	3 years	Late	Continuous	Continuous	—
291	9½ years	Late	About 2 years	Intermittent	+
293	14 years	Late	Much	Much	+
294	1½ years	No signs	Continuous	Continuous	—
295	9 years	No signs	3 years	None	—
299	1½ years	No signs	Continuous	None for 6 weeks	—
301	1 year, 9 mos.	Late	Continuous	Continuous	+
302	3 years	No signs	Almost continuous.	Almost continuous.	+
303	1 year	No signs	Continuous	Continuous	+
305	4 years	No signs	Not known	Little	++
308	3 weeks	Early	None	None	—
310	3½ years	No signs	2 years	None	—
314	9 months	No signs		8 months	+
320	1½ years	Early	Continuous	Continuous	—
323	2 months	No signs		2 months	—
324	15 years	Late	Several years	None	+
327	6 weeks	Early	None	None	++
331	6 months	Early	None	None	++
332	2 years	No signs	Continuous	Continuous	—
334	20 years	Late	Not known	None	+
335	3 months	Early	None	None	+++
336	4 months	Early	None	None	++
339	1 year, 9 mos.	No signs	Continuous	Continuous	—
340	17 years	Late	Much	Much	+
351	11 years	No signs	About 3 years	None	+
353	18 years	Headache	2 years	None	+
354	5 weeks	Early	None	None	+++
356	8 years	No signs	3 years	None	—
362	2½ years	No signs	2 years, 3 months	None	+
363	5 years	No signs	3½ years	6 months	—
364	12 years	Late	3 years	Intermittent	+
365	3½ years	No signs	2 years	None	—
366	17 years	Late	Much	Intermittent	+
373	2 years	No signs	1½ years	None	—
374	4 years	Late	3 years	None	+
385	9 years	Late	About 2 years	None	+
393	2 months	Early		1 month	+
397	6 weeks	Early		None	++
400	2 years	No signs	Continuous	Continuous	+
401	8 years	Tabes	2 years	Intermittent	+
404	10 years	Late	3 years	Intermittent	+++
406	12 years	No signs	2 years	None	—
407	6 years	No signs	Almost continuous.	Almost continuous.	+
415	8 years	Late	Almost continuous.	Almost continuous.	+++
417	15 years	No signs	2 years	None	+

* In this and following table — indicates a negative reaction; +, mildly positive; ++, strong; +++, very strong.

TABLE 4.—TREATED CONTINUOUSLY OR IRREGULARLY FROM THE TIME OF INFECTION

Duration of Infection.	Manifest Signs.					No Signs.					Total
	1-6 Mos.	6 Mos.-1 Year.	1-1½ Yrs.	1½-2 Yrs.	2-3 Yrs.	1-6 Mos.	6 Mos.-1 Year.	1-1½ Yrs.	1½-2 Yrs.	2-3 Yrs.	
—	1	..	2	..	3	2	4	11	12	13	48
+	4	3	4	2	1	..	1	4	2	3	24
++	..	2	..	..	1	..	..	1	..	2	6
+++	1	..	1	..	1	..	..	1	1	..	5
Total	6	5	7	2	6	2	5	17	15	18	83

Manifest signs: Positive, 77 per cent.; negative, 23 per cent.
No signs: Positive, 26⅔ per cent.; negative, 73⅓ per cent.
Total: Positive, 42 per cent.; negative, 58 per cent.

In Table 4 there are eighty-three cases in which the duration of infection was from one month to three years, the patients having been treated continuously or irregularly for the same period of time. Of this number, twenty-six had manifest signs of the disease, 77 per cent. being positive and 23 per cent. negative. Fifty-seven patients had no signs of syphilis, 42 per cent. of tests being positive and 58 per cent. negative.

In fifteen cases of the above number giving a negative result, treatment was continued till the day of the test. Later when mercury was discontinued for three or four weeks, a positive reaction was secured in those cases where a second test was made. So it is evident that mercury influences the result of the test in a great many cases. In order to eliminate this factor, treatment should be dispensed with for at least one month before the specimen of blood is taken for examination.

It is interesting to note that some cases of syphilis under vigorous mercurial treatment, regardless of the manner in which the metal is administered, will give a strongly positive reaction even when the treatment is continued till the day of the test; others will become negative with but little treatment. So the question of the virulency of the infection becomes a very important one. This not only depends on the activity of the infecting organism itself, but is also influenced by the resistance on the part of the individual. In all probability a patient under treatment, giving a positive test requires a longer period of treatment to effect a cure than one giving a negative result under similar conditions. In the former case, the patient may not be reacting well to treatment or the virulency of the infection may be greater.

TABLE 5.—TWO YEARS OR LESS TREATMENT. DURATION OF INFECTION 3-30 YEARS

Duration of Infection.	Manifest Signs.				No Signs.				Total
	3-5 Yrs.	5-10 Yrs.	10-15 Yrs.	15-30 Yrs.	3-5 Yrs.	5-10 Yrs.	10-15 Yrs.	15-30 Yrs.	
—	..	2	1	2	7	10	6	3	31
+	1	14	1	4	4	7	2	1	34
++	..	1	..	..	2	..	1	..	4
+++	1	..	..	..	..	1	..	1	3
Total	2	17	2	6	13	18	9	5	72

Manifest signs: Positive, 81½ per cent.; negative, 18½ per cent.
No signs: Positive, 42 per cent.; negative, 58 per cent.
Total: Positive, 57 per cent.; negative, 43 per cent.

Table 5 represents seventy-two cases of patients having had two years or less of remote treatment, the duration of the infection being from three to thirty years. Forty-five of this number were free from signs of syphilis, 58 per cent. being negative and 42 per cent. positive. The remaining twenty-seven cases had signs of the disease, 18½ per cent. being negative and 81½ per cent. positive.

TABLE 6.—TWO TO THREE YEARS' REMOTE TREATMENT. DURATION OF INFECTION 3-20 YEARS

Duration of Infection.	Manifest Signs.			No Signs.			Total.
	3-5 Years.	5-10 Years.	10-20 Years.	3-5 Years.	5-10 Years.	10-20 Years.	
—	1	1	..	4	7	1	14
+	..	..	3	2	1	2	8
++	..	..	..	..	..	..	..
+++	..	..	1	1	..	..	2
Total	1	1	4	7	8	3	24

Manifest signs: Positive, 66⅔ per cent.; negative, 33⅓ per cent.
No signs: Positive, 33⅓ per cent.; negative, 66⅔ per cent.
Total: Positive, 58⅓ per cent.; negative, 41⅔ per cent.

In Table 6, there are twenty-four cases of three to twenty years duration, and from two to three years remote treatment. Of these 58⅓ per cent. were negative and 41⅔ per cent. positive.

TABLE 7.—TREATMENT NOT KNOWN. DURATION OF INFECTION 3-30 YEARS

Duration of Infection.	Manifest Signs.					No Signs.					Total.
	3-5 Yrs.	5-10 Yrs.	10-15 Yrs.	15-20 Yrs.	20-30 Yrs.	3-5 Yrs.	5-10 Yrs.	10-15 Yrs.	15-20 Yrs.	20-30 Yrs.	
−.....	..	4	..	..	2	..	3	9	4	3	25
+.....	..	5	2	7	..	..	..	2	1	1	18
++.....	..	..	2	..	1	1	..	2	..	..	6
+++.....	..	1	1	..	..	..	..	..	..	..	2
Total.....	..	10	5	7	3	1	3	13	5	4	51

Manifest signs: Positive, 76 per cent.; negative, 24 per cent.
No signs: Positive, 27 per cent.; negative, 73 per cent.
Total: Positive, 51 per cent.; negative, 49 per cent.

Table 7 represents fifty-one cases in which the duration of infection was from three to thirty years, the amount of treatment being unknown. In twenty-five of this number, signs of the disease being present, 76 per cent. were positive and 24 per cent. negative. Of the remaining twenty-six cases without signs, 27 per cent. were positive and 73 per cent. negative.

TABLE 8.—TREATMENT AND DURATION OF INFECTION UNKNOWN

	Manifest Signs.		No Signs.	Total.
	Early.	Late.		
−.....	..	4	9	13
+.....	1	19	2	22
++.....	2	10	1	13
+++.....	..	12	..	12
Total.....	3	45	12	60

Manifest signs: Positive, 91⅔ per cent.; negative, 8⅓ per cent.
No signs: Positive, 25 per cent.; negative, 75 per cent.
Total: Positive, 78⅓ per cent.; negative, 21⅔ per cent.

In Table 8, there are sixty cases in which the duration of the infection and amount of treatment are not known. Forty-eight of these had manifest signs, 91⅔ per cent. being positive and 8⅓ per cent. negative. The remaining twelve patients were without symptoms of syphilis; 75 per cent. were negative and 25 per cent. positive.

TABLE 9.—NOT TREATED

Duration of Infection.	Manifest Signs.				Total.
	1-6 Months.	6 Mos.-1 Yr.	1-2 Years.	2-5 Years.	
−.....	5	..	..	..	5
−.....	2	..	..	..	2
++.....	7	1	..	..	8
+++.....	17	1	3	..	21
Total.....	31	2	3	..	36

Positive, 86 per cent.; negative, 14 per cent.
Note.—In four of the five negative cases the exanthem had not appeared.

In Table 9, thirty-six patients with manifest signs and no treatment gave 86 per cent. positive and 14 per cent. negative reactions. Four of the five negative cases were in the chancre stage of the disease.

From a study of these cases we can readily see that in a large percentage of cases two or three years of treatment even when continuous is not sufficient to eradicate the disease. The patient may have had no signs of his trouble for many years and believe himself entirely cured, yet when the test is made, evidences of the old infection are shown when a positive reaction is secured.

In latent syphilis where the patient has been free from symptoms for a number of years and the disease again makes its presence known by signs or symptoms referable to the skin, the central nervous system, or some one of the viscera, the question at once arises, where has the hidden and concealed focus been located? There seems to be no doubt that such a focus of infection may be present in a great many cases, and, being walled off by connective tissue in Nature's attempt to overcome the disease, may lie dormant for variable periods of time, until, owing to some unknown etiological factor, the spirochetes and their toxins are taken up by the blood and lymph and carried to all parts of the body. A positive serum test in such cases would be expected even if at some former date it had been negative, owing to the quiescent state of the concealed focus of infection. When these walled-off foci are on the surface of the body, it is not difficult to secure a few drops of serum from the lesion to be used in the test; at the same time serum from the patient's blood can be tested and the difference in strength of reaction noted. In Case 228 of this series, the serum from the blood was negative, while the serum from the lesion on the patient's arm, which had been present five years, gave a strongly positive reaction. In Case 404, both the serum from the blood and that from the lesion were strongly positive. More work along this line will be necessary before final conclusions can be drawn; but we are led to believe that in such cases a protecting wall of tissue is preventing the organism and their toxins from entering the general circulation in any appreciable amount. This condition would explain why we get so many negative reactions in cases where there are evidences of the disease, and positive results where no signs of syphilis can be found; the focus being concealed in some part of the body not accessible to touch or vision. If such a condition is possible, the difficulty in clearing up some of the latent lesions which do not react readily to vigorous specific treatment is more readily understood, as but little if any of the medicinal preparation penetrates the protecting wall of tissue. The palmar and plantar syphilides are striking examples of this class of cases.

CONCLUSIONS

1. In serum diagnosis of syphilis a positive result is an indication that the disease is still active and that more treatment is necessary.

2. One negative result should not suffice in any suspected case of syphilis. The test should be repeated at intervals of six months for the first year after all treatment is discontinued and afterward at longer periods.

3. In quite a large percentage of cases two years of specific treatment, regardless of the manner in which it is administered, is not sufficient to insure a negative result from the serum test.

4. The tendency at the present time is rather to give insufficient treatment in syphilis than to over-treat the disease.

5. The Wasserman test is of inestimable value in obscure cases of syphilis, and in differential diagnosis.

100 State Street.

Origin of the Term "Stone Blind."—A correspondent writing to the *Lancet* of July 23 refers to the words "stone blind" as a popular term for complete and hopeless blindness. He states that he has been unable to trace its origin but imagines that it first came into use in the days before glaucoma was understood as a pathologic process. At that time, he says, it was common knowledge that an eye of "stony hardness" had no chance of sight, and he quotes Platner, who in 1745 spoke of the eye—"*oculus qui caligat.....durusque fit.*" The explanation is plausible and interesting.

TWO YEARS' EXPERIENCE WITH THE WASSERMANN REACTION IN PRACTICE

A PRELIMINARY REPORT ON FIFTY-SEVEN CASES TREATED FROM THE STANDPOINT OF THE WASSERMANN REACTION *

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The years 1903, 1905 and 1907 each marks a definite step in the advancement of our knowledge of syphilis.

With Metchnikoff's and Roux's inoculation experiments on the higher apes in 1903 the scientific world again renewed its efforts to discover, if possible, the cause of syphilis, and when Schaudinn and Hoffmann announced the *Spirochæta pallida*, in 1905, the diagnosis of primary syphilitic lesions was placed on a definite basis.

The establishing of the *Spirochæta pallida* as the etiologic factor in syphilis has been fraught with much criticism, because the discovery did not conform to Koch's postulates. The work of Metchnikoff, Roux, Neisser and many others stands out in bold relief and has put the specificity of the *Spirochæta pallida* on so firm a basis that, notwithstanding their inability to culture the organism, it is now accepted by syphilographers the world over.

The complement-fixation test as discovered by Bordet and Gengou, and elaborated by Wassermann, Neisser and Bruck, has brought us in still closer relation with this universal disease. Like the *Spirochæta pallida*, it has had its full share of criticism and condemnation, a large part of which was due to imperfect technic and application. That it is absolutely specific and of immense clinical value is a conclusion that can be drawn from the many reports that have appeared in the literature and the thousands of cases that have been examined.

The Wassermann reaction is valuable for both the general practitioner and the specialist. Neisser[1] says that the Wassermann reaction reveals syphilis with such certainty that nothing would induce him to dispense with it now.

Positive findings are a distinct indication of existing syphilis, and repeated negative findings are extremely valuable for a favorable prognosis, although the test is not infallible in every case. It is as important for the general practitioner as is the microscope for the determination of gonorrheal secretions. The Wassermann test is most valuable for the syphilographer, not only as an aid in the diagnosis but also in the treatment of syphilis. Until the discovery of the *Spirochæta pallida* and the application of the Wassermann test little indeed was known about this universal disease, save what could be seen externally and on the mucous surfaces. With the introduction of these two means of diagnosis we have at last something tangible to work with. It is possible now to make an exact diagnosis and to begin treatment at once, telling the patient with some degree of assurance what his future may be.

Höne[2] analyzes the findings in 1,512 cases of certain and of suspected syphilis and in 320 non-syphilitic patients. The findings confirm the specific importance of the test and show that energetic mercurial treatment is able to transform a positive into a negative reaction in a large proportion of cases.

A positive reaction was obtained in 23 out of 107 prostitutes with apparently no signs or history of syphilis.

Boas[3] has applied the Wassermann test in 1,345 cases. He states that positive findings after systematic treatment of syphilis are invariably the precursors of a recurrence. The serum test applied once a month in the first years after infection, and the resumption of treatment in case of positive findings, will certainly have a marked influence in warding off recurring trouble.

Purkhauer[4] reports from Neisser's clinic the findings of the Wassermann test as applied to 5,200 cases of syphilis. The findings were positive in inverse proportion to the number of intermittent courses of treatment that had been applied in the individual cases. The more energetic the treatment, the smaller the proportion of positive reactions. A single course of treatment does not seem to have much effect on the outcome of the test, but the general impression is all in favor of a thorough treatment in the first months and years after the infection.

W. Scholtz[5] says that the Wassermann reaction is generally negative from the third to the sixth week after infection, and as a consequence it is only of slight value for early diagnosis.

Therapeutically the Wassermann test is of importance because it indicates that it is possible in a degree to cure syphilis by abortion, but the proof cannot be substantiated without further observation, extending over years.

Jesionek and Meirowsky[6] say that we should bend every effort to change a positive to a negative reaction, because every syphilitic with a positive reaction is in danger of tabes and paralysis.

The earlier the treatment commences and the more energetically it is carried out the sooner will a positive reaction become negative. Chronic intermittent treatment unquestionably gives the best results, but we cannot as yet say whether this can make a negative reaction permanent.

It is true that these discoveries may dull the diagnostic shrewdness of the clinician and in time lessen his ability, but, like all biologic tests, they should be used as adjuncts, not as first aids, in diagnosis.

I have been working two years with the Wassermann reaction in practice. I began with the original Wassermann technic and have adhered to it throughout the whole time.

In reporting these cases, care has been taken to note carefully the results in making the Wassermann test. Alcoholic extract of a liver of a congenital syphilitic was used as an antigen, with plenty of known normal and syphilitic serums as controls, and each tube was tested twice with different strength antigens, each acting as a control for the other.

For convenience I have adopted the following classification:

Group I. New cases treated after the biologic method.
A. Chancre, *before* the Wassermann reaction was positive.
B. Early secondaries, *after* the Wassermann was positive.

* Read in the Section on Dermatology of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, 1910.

1. München. med. Wchnschr., May 25, 1909, lvi, 1057.
2. Berl. klin. Wchnschr., May 10, 1909, xlvi, 862.
3. Berl. klin Wchnschr., March 29, 1909, xlvi, 577.
4. München. med. Wchnschr., April 6, 1909, lvi, 697.
5. Deutsch. med. Wchnschr., February, 1910, No. 5, p. 215.
6. München. med. Wchnschr., 1909, lvi, 2291.

Group II. Old cases treated before the biologic method was used.
A. Late secondaries.
B. Latent.
C. Tertiary.
D. Congenital.
Group III. Apparently cured.

GROUP I: A. CHANCRE BEFORE WASSERMANN REACTION WAS POSITIVE

All patients presenting themselves for examination were treated in the following routine manner: Diligent search was made in the primary lesion for the *Spirochæta pallida*. If this was not successful, puncture of the inguinal glands was resorted to and, regardless of whether the diagnosis was conclusive or not, a Wassermann test was made. This gave me immediate control of the diagnosis. I found that the Wassermann reaction was positive in direct proportion to the time of the presence of the primary lesion.

Depending on the length of time of the presence of the primary lesion, excision of the chancre was practiced whenever it was possible; however, rarely later than the tenth day or second week, as later than this systemic involvement to some degree has, as a rule, taken place.

In this series there were seven cases. In five of them excision was employed; one was situated in the coronary sulcus beneath the frenulum and could not be removed without great destruction of tissue; one was treated locally with calomel.

I still warmly advocate the principle of excision, but believe it to be a dangerous procedure for the operator, as a needle-prick or an excoriation on the finger may easily become the atrium of infection.

In examining many lesions that had previously had calomel used as a dusting powder, invariably the spirochete was not to be found, or if found at all it was with difficulty, showing that mercury in this form has some action locally in the destruction of the spirochete. I offer this time-worn method as the best both for the patient and the surgeon. Some may argue that this does not accomplish the desired effect; i. e., the removal *en masse* of the first known collection of spirochetes. This cannot be proved unless sectional stains are made. It seems perfectly rational to assume that if calomel has such a marked local effect on the spirochetes as to prevent their being found in the serum of the initial lesion, its free use should act as an efficient substitute for the highly scientific but hazardous procedure of excision.

Whenever it was possible to make a diagnosis from the primary lesion, the blood for the Wassermann test being previously taken, an injection of mercury was given at once, the object being to begin treatment at the earliest possible moment after a positive diagnosis was made, with the sole idea that if the blood test showed negative it should be kept so; if it showed positive it should be made negative and kept negative throughout the whole time.

Of the seven patients, the first two discontinued treatment after three months, but up to this time neither had even an adenopathy. Both have disappeared. Of the other five, one relapsed, and at the time of his second blood test, which was positive, he had plaques on his tonsils. The remaining four have continued along in an even, uninterrupted course. Wassermann examinations were made at intervals, on an average, of from four to six months.

The most recent case was of five months duration, the patient had two blood tests and both were negative.

TREATMENT

In these cases the treatment was most energetic; except for a few injections, rubbings and internal treatment were the regular routine. Where the patient could afford it, I preferred to have a masseur give the rubbings.

Some observers have argued that beginning treatment so early predisposes to the parasyphilids, as these patients are not sufficiently impressed with the severity of their own clinical picture and soon stop treatment. This in a measure is true among a certain class of patients, but it is equally true that patients of this class will do exactly the same thing if permitted to wait for secondaries before beginning treatment; they will treat until symptoms disappear and then stop. I believe that relapses would be fewer and that our success would be greater if vigorous treatment were instituted before the body was fairly saturated with the spirochetes, taking it for granted that the patient will only submit to treatment for a short while.

In this series the four cases that have remained with a negative Wassermann reaction have not had the slightest sign of syphilis, and except for the sites of their initial lesions they are absolutely clean.

GROUP I: B. EARLY SECONDARIES AFTER THE WASSERMANN REACTION WAS POSITIVE

In this series there are eleven cases; seven have become negative; four have remained positive. In the seven cases that obtained a negative, one patient relapsed, but has since regained a negative. All the other cases that obtained negatives have continued along without any unfavorable symptoms.

The shortest time in which I was able to change a positive Wassermann reaction in a patient with a papular eruption to a negative was two and one-half months. The patient had rubbings and internal treatment, rubbing an even 300 gm. of mercury in succession.

Of the four patients who did not progress, two absolutely gave up, preferring an easier method of living; two made several attempts at continuous treatment, but were not successful.

GROUP II: A. LATE SECONDARIES

In this series, in which the patients began treatment with external symptoms before the biologic treatment was in use, there are thirteen cases. All have had external manifestations within one year except two cases; the infections date from three to eight years prior to observation. Twelve patients have continued treatment; one has dropped out. Of the twelve that have continued treatment, it has been possible to obtain and continue a negative Wassermann reaction in only two, and these are two that have shown no external manifestations of syphilis for two years.

Three cases in this group presented spirochetes in the mouth in mucous plaques four, six and eight years after infection. The older the infection with active lesions the more difficult it seems to be to get a negative Wassermann reaction. Some of these patients were on their one hundred and fiftieth rubbing with only short intermissions between treatments.

It is here that one begins to see a direct relationship between a positive Wassermann reaction and persistent infections. All of these patients presented themselves for treatment from the eighteenth month to the fourth year after infection, and in one instance eight years. Their treatment from the beginning had been of a mild,

intermittent, chronic type, so that at the time of beginning treatment under the biologic method they were, so to speak, thoroughly impregnated with the spirochetes.

GROUP II: B. LATENT CASES

In this series there are fifteen cases. All gave a typical syphilitic history but were free from external signs of syphilis for three years, and longer in some instances. All showed a positive Wassermann reaction.

Seven of these cases obtained a negative Wassermann reaction; of the seven, four relapsed. Of the eight remaining cases one discontinued treatment; the remaining seven were not able to obtain a negative blood test.

GROUP II: C. TERTIARY

In this series there are two cases.

CASE 1.—Infection eighteen years ago; one and one-half years ago gumma of finger. Wassermann reaction positive. In spite of fairly vigorous treatment this case had remained unchanged at the last examination three months ago.

CASE 2.—Infection nine years ago; three years ago gumma of left testicle, which promptly disappeared under specific medication; treatment vigorous at the onset, but later desultory, and still later discontinued. Blood-test always positive.

The discouraging results in Group II, B and C are attributed to the following circumstances:

1. Latency of infection: apparent freedom from the disease, so far as symptoms go.
2. Inability to apply continuous energetic treatment for any length of time.
3. Energy and financial resources exhausted in long continued treatment.
4. The difficulty of convincing the layman of the significance of a positive Wassermann reaction in the face of apparent good health.

GROUP C.—APPARENTLY CURED*

Patient.	Time of Infection, Years Ago.	Kind of Treatment.	Last Treatment, Years Ago.	Biologic Test.
G. K.	12	Internal and rubbings, fairly vigorous.	4	Test 1 neg., 8/ 1/08
C. K.	6	Internal, injection, rubbings, chronic intermittent form.	2	Test 1 neg., 4/ 1/09 Test 2 neg., 11/ 1/09
A. C.	5	Internal, rubbings and injections, vigorous.	1½	Test 1 neg., 7/ 5/09 Test 2 neg., 3/ 1/10
L. D.	12	Rubbings, internal and injections.	3	Test 1 neg., 2/ 1/09 Test 2 neg., 8/ 1/09 Test 3 neg., 3/ 1/10
J. M.	19	Internal, injections and rubbings.	5	Test 1 neg., 5/ 4/09 Test 2 neg., 2/10/10
S. C.	8	Injection, rubbings, internal, chronic, intermittent form.	1½	Test 1 neg., 6/ 1/09 Test 2 neg., 2/ 2/10
R. C.	5	Rubbings, injections and internal, vigorous.	1½	Test 1 neg., 8/ 2/09

* In this series there are the seven cases here given.

GROUP II: D. CONGENITAL SYPHILIS

In this series there are two cases.

CASE 3.—Male child, son of a male patient of mine who was married in the second year after his infection. Patient was under observation for five years. Treatment was begun in the second year, at which time there was only anemia and general adenopathy, with slightly stunted growth.

Blood-test was positive two years ago; one year later negative, and in April, 1910, negative again, with no treatments in the interim.

CASE 4.—Male; came under observation in the ninth year, after his infection, with many typical signs of congenital syphilis: had had many courses of mercury. Eighteen months ago blood-test was positive. Almost continuous treatment for the following eighteen months gave no success so far as a negative blood test is concerned, three examinations being made.

This boy is in apparently good health and is able to work as a messenger, having graduated from the grammar school last spring. As suggested by Purkhauer[6] and Bruck,[7] it is a question whether this case can ever become negative.

In this series the more favorable cases are the older ones with a corresponding repeated negative biologic test. Those of more recent origin, with vigorous treatment and two or more negative biologic tests, I regard as likewise favorable; whether they will relapse again time alone will tell. To guard against any further trouble it will be necessary to make a Wassermann test from time to time in such a manner that the test will become necessary less often the further back the primary infection lies, provided that the reaction has been found negative on several tests repeated from year to year.

If this so-called biologic method is to be adopted it will be necessary for us to lay new foundations in the way of treatment. If we expect to maintain a negative Wassermann in a given patient the treatment must be continued after the negative goal is reached, as withdrawing treatment at this time only permits of the rehabitation of the patient by the spirochetes, with a resulting positive biologic test.

How long this vigorous treatment is to be continued the future will have to decide. It may be possible to prophesy one and one-half to two years, but the test is far too recent to permit any definite conclusions. It is true that some of these cases may develop a Wassermann-ophobia, but beyond this, with careful examination of the urine and gums and attention to general hygiene, these patients should show only steady improvement.

CONCLUSIONS

The biologic treatment of syphilis seems to offer a tangible guide in the management of syphilitic cases. For its successful culmination it is positively necessary to have:

1. An early diagnosis, either by finding the spirochetes in the lesions, or by the positive serum reaction of Wassermann.
2. Control of the treatment by biologic tests; not by the clinical manifestations of the disease.

100 State Street.

ABSTRACT OF DISCUSSION

ON PAPERS OF DRS. WAUGH AND CORBUS

DR. J. GRINDON, St. Louis: There is probably not a man in the room but could relate a number of striking instances bearing on the Wassermann test. I will limit myself to one. Six years ago, a young attorney came to me with the history of an initial lesion, which was followed by a papular, secondary eruption. He was at once put under active treatment, and remained under such treatment and observation for three years, developing no further symptoms. At the end of that time he was apparently in splendid health. At intervals of three or four months he would come in and see me, when I would tell him that to the best of my knowledge he was well. A year ago last June I explained the Wassermann test to him, and advised him to submit to it. He did so, and the reaction was positive. He returned home and submitted to a mercurial course, which, contrary to my advice, was taken internally instead of by injection. Six months later, which was five and a half years after his last symptom, he wrote to me that a painful growth was developing above the inner condyle of the humerus. I examined him carefully, and in spite of what I knew of his history, believed that the growth was probably a sarcoma. We cut down on it and found a gumma. The case presents a striking confirmation of the value of the Wassermann test.

7. Bruck: Die Serodiagnosis der Syphilis, Berlin, 1909.

DR. M. L. HEIDINGSFELD, Cincinnati: There is one phase of the Wassermann test to which I wish to direct special attention. Cases of syphilis, after treatment has been instituted, frequently develop a negative Wassermann, sometimes after very little treatment. On the other hand, other cases, in spite of very vigorous treatment, will show a decidedly positive reaction for a long period. This is probably due to the fact that the Wassermann test is a test of "antibodies," or the reaction of the system against syphilis, and not of the virus itself. In two cases of malignant syphilis on my service at the Cincinnati Hospital, in which both patients developed early rupia, and the malignant nature of the disease was well defined in all its aspects, the Wassermann reaction was negative from the very beginning, and in spite of the most energetic mercurial and arsenical treatment, it never gave a single positive reaction after repeated tests. One of the patients died eighteen months after infection; the other is still alive, but is in desperate straits. These patients have never reacted against the disease; probably no antibodies were formed, and the Wassermann test was therefore negative.

DR. J. A. FORDYCE, New York: I have watched the results of the Wassermann reaction during the past two years in my private and public practice, and these observations have led me to the belief that it is a method of great diagnostic importance. Regarding its practical or therapeutic application, it seems to emphasize the fact that mercury given hypodermically or by inunction has a greater influence over the reaction than mercury given internally. Furthermore, the earlier the treatment of the disease is begun the sooner the reaction becomes negative. It may be stated conservatively, I think, that the treatment of syphilis as generally carried out is very inefficient; that mercury is given in too small doses and that the use of potassium iodid is only exceptionally indicated in the secondary stage of the disease, though frequently it is relied on by practitioners from the beginning.

DR. WILLIAM LITTERER, Nashville, Tenn.: I have made Wassermann tests, using different antigens, in twenty cases of pellagra. Three out of the twenty reacted positively. In one out of the three positive cases there was a history of syphilis; in another, an indefinite history of lues. I do not believe that the Wassermann reaction will be positive in non-syphilitic cases of pellagra; and this is in accordance with the experience of Dr. Howard Fox, although Bass has reported positive reactions in practically every case examined by him. In our cases we employed both the original Wassermann and the Noguchi tests, and both gave uniformly negative results.

I have found that in some cases, the use of the protoiodid of mercury internally does not obliterate the Wassermann test, but when we change to the inunction method, it usually becomes negative in a fairly short time. In some cases, the inunction method seems to be more efficacious than the injection method, and *vice versa*. We cannot be absolutely positive which is the better method, but I agree with Dr. Fordyce that either is preferable to the internal method.

DR. WILLIAM T. CORLETT, Cleveland: I think we are generally agreed as to the value of the Wassermann reaction in syphilis. A year ago I spent some weeks in the laboratory of Professor Finkler at Bonn, working up the Wassermann reaction. The difficulties in carrying out the reaction in private practice are great, and I think it should be largely left to men doing laboratory work. This applies not only to the technic, but to the skill and experience necessary to read the reactions aright. There is another point I wish to refer to, and that is the influence the Wassermann reaction may have on our therapeutic methods in the treatment of syphilis. For a number of years, my observations have taught me that cases of syphilis treated with any form of iodin during the early stage of the disease run a more protracted course and prove more obstinate to treatment than do cases in which iodin has been withheld. Further, I have long been convinced that mercury is the only drug that has any definite and constant influence in eliminating the syphilitic virus. Both observations have been verified by the Wassermann reaction.

DR. ALFRED SCHALEK, Omaha: I wish to report a case that came under my observation lately. The case was one of syphilis, pursuing a very malignant course, but under persistent treatment with inunctions and injections the symptoms finally cleared up. The patient subsequently went to Europe where he saw Prof. Neisser, who had a Wassermann test made, which proved negative. A similar test was afterward made by Dr. Schamberg of Philadelphia and was again negative. Shortly after that the patient developed symptoms pointing to a syphilitic brain lesion, and he is in a hopeless condition today. Our indications are clear when the Wassermann test is positive, but how do we stand as to the continuation of treatment when it is negative?

DR. E. H. MARTIN, Hot Springs, Ark.: I was very much interested in the statement made by one of the speakers that the spirochetes might remain sealed up in the connective tissue for a number of years, and that under those conditions, mercury was not effective. I was also interested in the statement made by Dr. Corlett that mercury was the only drug that was effective in controlling this disease during its early stages. That I believe is a mistake. We have in the arylarsonates a powerful remedy for the treatment of early syphilis. I have used the various preparations of the arylarsonates in about 200 cases of syphilis, and while I am not prepared to say that with them I am satisfied to get along without mercury in the treatment of this disease, yet I have found them very effective. Under the use of these remedies the lesions cleared up in at least one-third of the time that they would with the iodids, and in one-tenth of the time that they would with mercury alone. Arsenic, we know, has the power to penetrate the tissues, and hence may destroy spirochetes sealed up against mercury. In the case reported by one of the speakers here today, where the Wassermann test gave a negative reaction in the face of marked pernicious syphilis, I can almost promise him that the symptoms in such a case will respond to the arylarsonates.

DR. ALFRED SCHALEK, Omaha: In the case I reported, the symptoms failed to yield to any of the preparations of arsenic.

DR. EDWARD BOWE, Jacksonville, Ill.: I am more particularly interested in this subject from the standpoint of mental and nervous diseases, as I have seen a number of cases of teritiary brain lesions. Presuming, as a neurologist, that one is called on to make the differential diagnosis between a specific lesion of the brain and a brain tumor, one can readily appreciate the importance of having such a test as the Wassermann reaction to fall back on. In many such cases we get a very obscure history of syphilis, or none at all. Given a history of syphilis, the treatment may have been inadequate or inefficient, and under such conditions you can readily see the value of such a diagnostic test as this. If the reaction was positive, it would give us a direct indication as to treatment and aid us in the prognosis. The same applies in dealing with obscure cord lesions.

DR. OLIVER S. ORMSBY, Chicago: In our office it has now become a routine measure to examine all doubtful cases of syphilis by the serodiagnosis test. In cases in which syphilis is shown to exist, the treatment should be continued as long as the test is positive. Some authorities say that a patient with syphilis should be treated as long as he lives; others differ from this view. It is evident that in some individuals syphilis persists for many years, while others recover promptly. The results of the Wassermann test confirm this. Some cases show a negative reaction after a few months, while others persist in giving a positive reaction in spite of long-continued treatment; the latter are usually of the virulent type. As an example the following case is cited: A patient developed a profuse exanthem of the florid type; this disappeared under energetic treatment, mercury being given by injection, inunction and internally at different times during two years of constant treatment. Three months after he was discharged his blood was tested and gave a positive Wassermann reaction. At the time the patient was apparently healthy and had exhibited no symptoms of syphilis since the first outbreak two years previously. Before we had time to institute further treatment, he developed paralysis of the third nerve, and since then he has had almost uncontrollable symptoms. The Wassermann test is a most valuable addition as an aid in diagnosis and should always be considered in conjunction with our knowledge of the clinical manifestations of syphilis.

DR. V. J. COHENOUR, Joliet, Ill.: In reply to Dr. Bowe I would say that a patient may have a non-syphilitic brain tumor and still have syphilis, and in such a case the Wassermann reaction would not throw much light on the differential diagnosis. If the case is one of brain syphilis without a brain tumor, the chances are that the symptoms will clear up under anti-syphilitic treatment, whereas in brain tumor you would get at best but a temporary remission of the symptoms. The fact I wish to bring out is that we may have a combination of these two conditions. I have seen individuals with chronic syphilis in whom the Wassermann test gave a negative reaction at one time, and a strongly positive reaction perhaps six months later. In some cases of gumma, for instance, where a negative reaction is obtained, the administration of potassium iodid for some time may be followed by a positive Wassermann, indicating that the drug has stirred up some of the syphilitic products. As to the curability of syphilis, I think that when once a man has syphilis, he always has syphilis. I have examined men who were treated in the ordinary way for ten or fifteen years, and thoroughly treated, and still, in spite of that, they showed decided symptoms of the disease later on. I have found that by the inunction method of treatment the reaction is decidedly quicker than by any other. Next to this, I favor the injection method, and lastly, internal treatment. The test I prefer is the unmodified Wassermann, and I do not find it particularly difficult.

DR. J. F. WAUGH, Chicago: My experience with this test in the field of nervous diseases has been rather limited. In the series of cases reported, there were thirteen cases of tabes, seven being positive and six negative; and two cases of general paresis, both positive. In cases of suspected syphilitic involvement of the central nervous system, the test is of the greatest value. However, a negative result does not preclude the possibility of syphilis, as the results of practically all investigators in latent syphilis will prove. Judging from the effect of treatment in converting a positive into a negative result in a given case, it would seem that the most efficient manner of administering mercury is by injection or inunction. Even after a negative result is secured and the patient is apparently free from his disease, the test should be repeated at intervals for a number of years. In this manner it is quite probable that many of the late manifestations of the disease can be prevented. Future work along this line will undoubtedly disclose interesting facts.

DR. B. C. CORBUS, Chicago: In order to get accurate results from these tests we must of course have a good laboratory, and the technic must be faithfully carried out. When the result is positive, it demands early and energetic treatment.

THE TREATMENT OF STAMMERING *

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PHILADELPHIA

CLASSIFICATION

In any consideration of the treatment of stammering, it is convenient and desirable to make three classes. In the first class we put all those nervous children who present any abnormalities of speech development; in the second class, those who have begun to show a tendency to stammer by an occasional hesitancy of speech, and in the third class, the confirmed stammerers, those who not only stammer but who know that they stammer, and whose natures have been deeply influenced by it. There are three stages of the affection, therefore, the prodromal, the acute, and the chronic. The first stage is generally characterized by the psycho-physical condition called nervousness, and the speech is rapid and blustering. The second stage is like the first, but it presents the added phenomena of speech hesitation and a more or less frequent repetition of certain sounds. The third stage may represent all the characteristics of the first two, but in a more pronounced form, and it presents in addition all those phenomena both mental and physical which together consitute what may be called the stammering habit.

First Stage.—What shall we do for the nervous child who inherits, it may be, a tendency toward stammering, whose ideas are confused, whose speech is rapid and blustering and whose environment is such as to aggravate all these unfortunate conditions? The remedy is not far to seek, but we must admit that it is not always so easy of application. The time to cure stammering is before it begins. Children should never be allowed to stammer, and the so-called habit never should be formed.

Speech is an acquired faculty and stammering is an acquired defect. To save the child from the second and third stages it is manifest that he must be taken out of his unfavorable environment; he must not be allowed to hear rapid and blustering speech, which, by the way, is common in families of which stammerers are the offspring, and by no means must he be allowed to hear others stammer, because of his natural and almost perverse inclination to imitate anything which is unusual and undesirable. By the same reasoning he must have good examples of speech, he must be taught to do things quietly and in order, to think of only one thing at a time, and to speak with deliberation. Don't scold the child because he is already in an excited condition and scolding will merely add fuel to the flame. Don't make fun of him or call his attention to his defect, for this will embarass him and lead to a nervous dread of future trouble. Always keep in mind the fact that the child is striving to combine the art of ideation with that of oral expression. It is all new to him. His thoughts come rapidly and the words with which he attempts to clothe them tumble out spasmodically, somewhat as water comes out of a bottle. He tries to say everything at once. He cannot arrange his thoughts in order and he has difficulty in selecting suitable words for their expression. The vocal and articulating organs share in the general confusion and they soon begin to lose their normal automatic action. It is at this point that careful treatment will almost surely prevent a further development of the trouble.

The treatment should begin at the kindergarten age, and it could be given in the kindergarten school by especially trained teachers, but the work would be greatly hampered, if not altogether negatived, by the home environment of such children, in which confusion and excitement usually reign supreme. The ideal place, therefore, for such a patient would be in a special hospital school, away from his mother and father, and brothers and sisters, who together, unwittingly of course, are oftentimes directly responsible for his condition, and who if given a little time and opportunity, will surely lead the unforunate one into the second stage.

The Second Stage.—I have described the second stage as that of speech hesitation and frequent repetitions of sounds. The treatment of this stage should be similar to that of the first, but some additional measures must now be adopted. In the first place the patient must be speedily cured in order to save him from the mental complications attendant on the third stage of the affec-

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tion. It is cruel to send such a child to school, and as a rule he should be taken out of his home and kept in the atmosphere of good speech. He should be drilled in the elements of speech, and given respiratory, phonatory and articulatory exercises. The child should be trained in the natural easy use of the speech mechanisms, and this should all be done without any reference being made to his tendency to stammer. Indeed it is quite possible to cure him of the affection at this stage without his really knowing that he had it.

Third Stage.—Coming now to the third stage of stammering. It is in this stage that we find the affection in its fullest development and with all its psychological variations. The ultimate cause, whatever it was, may have long since disappeared, but the disastrous results are plainly manifest in the character and disposition of the afflicted one. Mentally, physically, and sometimes also morally, there seems to be no health in him, and I know of no disease which so taxes the skill and ingenuity of the physician as does this combination of nervous derangements.

ESSENTIALS OF CURE

The stammerer himself is of the opinion that he is organically and radically different from other people, and he is skeptical as to the outcome of any line of treatment or practice. If you, perchance, succeed in removing his skepticism, he even then has scarcely enough will power or energy to pursue any course of treatment which may be prescribed for him. His great desire oftentimes is to be cured quickly and without any effort on his own part. To whom shall such a one turn for relief? "Certainly not," as Alexander Graham Bell says, "to any pretender who veils his method in convenient secrecy, nor to any who profess to 'charm' away the impediment—or to effect a cure in a single lesson! Not to any whose 'system' involves drawling, sniffing, whistling, stamping, beating time—all of which expedients have constituted the 'curative' means of various charlatans; nor to any who bridle the mouth with mechanical appliances—forks on the tongue, tubes between the lips, bands over the larnyx, pebbles in the mouth, etc., etc. The habit of stammering can only be counteracted by the cultivation of a habit of correct speaking founded on the application of natural principles."

I quote further from Dr. Bell because his thought on the subject concurs so thoroughly with my own: "But with the best assistance the stammerer must work out his own cure. He cannot be passive in the matter. He must clearly apprehend the principles on which he is to proceed and diligently apply them. Nor must he in this depend too much on the watchfulness of his instructor, but must learn to watch over himself. His perfect release from the habit will require time, patience, and hopeful, energtic effort."

How shall we assist the stammerer to work out this cure? That is the problem. We are somewhat in the position of a watchmaker who is handed a chronometer that will not keep time. It is not enough for him to say that the steel is not properly tempered and that the springs are not properly annealed, but he must make the watch go. So it is not enough for us to say that the stammerer has inherited or acquired certain disabilities, but we must show him how to overcome them or to supplant them with desirable mental and physical characteristics.

If he has weak will power, we must show him how to strengthen it. If he lacks the faculty of attention or concentration, we must show him how to acquire it. If he has grown morbidly introspective and self-conscious, he must be shown how to overcome this condition. If he is suffering from fixed ideas and obsessions, if he has become neurasthenic or psychasthenic, as many of them have, he must be cured of these diseases before he can possibly be cured of his speech malady. In other words, he must learn to control himself before he can hope to control his speech.

SPECIFIC METHOD

As to specific methods, I should say that it is not so much the method as its application that is of value. Of course, there are methods good and bad, and there are methods which are better than others, but the best methods are those the application of which will result in the development of the proper mental attitude on the part of the patient, and incidentally in the highest efficiency of voice and speech. Mental culture, voice culture and speech culture must form the basis of every rational method of treatment. The stammerer should acquire a high degree of vocal power and the greatest possible articulatory skill and efficiency These he can get, of course, only with the assistance of an experienced teacher. He thus learns to play on his own instrument as the pianist learns to play on the piano, all the time acquiring skill and proficiency by well directed and persistent practice.

Now what are the special exercises that have been found to be the most suitable for this purpose? I shall have time only to refer to them and their application. In a general way, the stammerer should learn the "physiologic alphabet" theoretically as well as practically. He should learn exactly how to produce and articulate, if you please, every one of the elementary sounds of speech and he should learn to hear them accurately and know when he himself produces them accurately. In other words, he must develop his ear for speech before he can make any progress in speech culture.

He must also learn the exact musculature of speech, and when an untoward action or coordination appears in any of the three peripheral mechanisms, it should be pointed out to him, and suitable exercises given to correct it. In this way the patient gradually learns how to regulate his nervous energy, how to inhibit certain hitherto overacting nerve impulses which have resulted in the muscle spasms characteristic of stammering, and how to distribute the innervations to the various mechanisms in their proper order and intensity.

One difficulty with the stammerer is that he tries to speak entirely with the articulatory mechanism, apparently ignorant of the fact that the effort should be chiefly directed to the vocal mechanism. His attitude in this respect towards singing is more nearly what it should be. In singing he directs his attention to the vocal mechanism and therefore he rarely stammers.

Having learned the physiologic alphabet, or table of sounds, we have found it good practice to drill the patient in phonetic reading, and what Dr. Bell has called syllabication. Normal speech, of course, is largely automatic and independent of any conscious interference. Moreover, it is acquired originally by imitation and without any conscious effort. Hence it is that when the child stammers he knows neither why he does it nor how to stop it. He may be helped to stop it, as I have said, during the first and even during the second stage without his ever having known that he did it, but in the third stage it is generally necessary to have him thoroughly reorganize his methods of speech, to have him bring all the processes well within the domain of his consciousness and to teach him to control them entirely

by volitional effort. This reorganized or relearned speech must then be practiced until great facility has been acquired in the new physiologic use of all the muscles, respiratory, phonatory, and articulatory, and this should be done in precisely the same way and for much the same reason that the student of the piano practices finger exercises.

Indeed the stammerer should be taught to regard his organs of speech as an instrument apart from himself, on which he must learn to play just as the pianist learns to play on the piano. This facility of speech is absolutely essential to the stammerer. He must know that he can control his speech; not only so but he must know that he knows that he can do it, in order that in the future he may be able to overcome the distracting influences of the fear of stammering which always lurks in the mind long after the cure has been accomplished. The stammerer himself is oftentimes the last one to be convinced that he is cured, and hence it is that we have here a field for the practice of psychical as well as physical therapeutics.

STAMMERERS AND THOSE WHO STAMMER

Finally, as someone has said, there are those who stammer and those who are stammerers, meaning, I suppose, that we all stammer to some extent, but the stammerers are those who are conscious of their difficulties and whose cerebral activities are disturbed by them. Those who stammer are the ones described as being in the first and second stages of the affection, and the stammerers belong to the third or chronic stage.

Those who stammer may be unconsciously relieved of their difficulties by simple elocutionary measures, consisting of training in respiration, phonation and articulation, while the stammerers must reorganize their speech by means of the same elocutionary measures, plus training in mentalization. I always ask my assistants to train the patients in these four things, respiration, phonation, articulation and mentalization, entirely regardless of the fact that they are stammerers, and I tell them that the object of the training should not be primarily to cure stammering but rather to develop good voice, facility of articulation and the right mental attitude, and when this is done all other desirable things will be added thereto.

The stammerer naturally cares little for voice and speech culture, but his chief desire, as I have said, is to get rid of his difficulties and the shorter the cut to this goal the better it suits him. His mental attitude in this respect must be changed. He must become interested in speech culture for its own sake if he would be safely and permanently cured. It is this faulty mental attitude that explains why stammerers are attracted to the various "get cured quick" schemes such as are in vogue, of course, for purely mercenary ends.

PROGNOSIS

I am often asked how long it takes to cure stammering, and in answering this question I am reminded of the following little incident: An old book gilder was asked how long it would take to learn his art and he said, "Some learn it in five years and some never learn it." I do not wish to leave you with the impression that there are some people who never can be cured of stammering, but I mean to say that there are people so organized constitutionally that the acquirement of any degree of facility of speech is an exceedingly laborious task, and for them to overcome a defect like stammering requires long and persistent practice of physiologic methods. The prognosis, however, is always good when the patient can be induced to do the things that are essential to the reorganization of his speech, and there can be no more healthful physical exercise or efficient mental discipline than that which comes with the study and practice of speech culture.

1627 Walnut Street.

A CASE OF OPIUM-POISONING

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The following case is reported, because the man was in such profound stupor, and seemingly in such a dangerous condition, and yet responded so promptly to the treatment instituted, as to give no trouble or uneasiness to those in attendance.

History.—J. W. S. was admitted to Alleghany Hospital on June 30, 1910, with no history except that he was taken from a train on the way from a near-by town, in profound coma. There happened to be in the hospital a patient from the same town, who knew the man, and said that he was a painter subject to painter's colic and a hard drinker.

Examination.—The man was in profound coma, pupils pinpoint, pulse soft and regular, respiration three to the minute, temperature normal, urine normal. The diagnosis of opium-poisoning was made.

Treatment and Result.—The stomach was washed out, and the bladder emptied. Supra-orbital pressure and castigation with a wet towel brought no response whatever. The left median cephalic vein was opened for saline transfusion and five pints of saline solution in which 7½ grains of caffein citrate had previously been dissolved, were allowed to flow in rapidly through an eye-dropper. The man made no response to any attempts to arouse him, or to the incision and the handling of the wound, but began to writhe as the stitches were put in; and by the time the wound was sutured, sat up in bed and talked rather clearly. His recovery was complete and he gave no further trouble. It was afterward found on questioning him that his home doctor gave him a "good strong" hypodermic before he left home and some powders of morphin with directions as to taking them. As the pain was not relieved in a few minutes from the hypodermic he then "took all the powders at once" and boarded the train.

61 Washington Street.

NOTES ON CERTAIN TESTS FOR INDICAN IN THE URINE

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The following notes are published as a caution to those who make routine examinations of the urine for indican. It is sometimes necessary to preserve the urine for a time before the test can be made, and for this purpose formaldehyd solution should not be used; at least not when bleaching powder or potassium permanganate is employed as the oxidizing reagent. I have been unable to find note of this in the texts at my command (Emerson, Wood, Simon), nor have I seen attention called to the fact in any published article. Emerson says, however, "A person must be wary in a chemical examination of such a urine" (i. e., one preserved with formaldehyd solutions).

The tests used are the ordinary ones, as follows: Ten c.c. of concentrated hydrochloric acid is poured into a test-tube containing a like amount of the urine to be tested. This is mixed and potassium permanganate and

chloroform added alternately drop by drop, agitating, until about 2 c.c. of chloroform and a sufficient quantity of the permanganate have been added. The other test is the Jaffe test. Ten c.c. of concentrated hydrochloric acid are placed in a test-tube and a very small drop of fresh concentrated solution of ordinary bleaching-powder is placed on the lip of the tube. The hydrochloric acid is poured into a tube containing 10 c.c. of the urine, carrying with it the drop of bleaching-powder solution. Two c.c. of chloroform are then added. In either of the tests after the addition of the chloroform the tubes are slowly inverted and the chloroform takes up the indican, the result being a bluish color of the chloroform layer.

CASE 1.—An acid urine containing a rather large amount of indican (both tests) was divided into two portions and the one left unpreserved, the other preserved with formaldehyd solution (one drop of the 40 per cent. solution to 4 fl. oz. of urine).

In testing these specimens on the following day it was found that the unpreserved urine gave the indican test as on the previous day while the one containing the formaldehyd did not show the slightest color in the chloroform layer. Both tests were employed with the same result. The urines were acid.

CASE 2.—This patient was taking potassium iodid and the chloroform layer showed the purple color due to the mixture of the pink color of the iodin and the blue of the indican. The urine was divided into two portions as before. The indican tests had shown a very large amount present. To one portion was added formaldehyd solution as before; the other was left unpreserved. The next day the unpreserved portion gave both tests as before, while the one containing the formaldehyd solution showed the pink color due to the iodin and a very slight trace of the blue. These two specimens were again set aside and tested on the tenth day. At this time the unpreserved urine gave no trace of indican with either test and the preserved urine showed only the pink color of the iodin. The urine remained acid in all cases.

CASE 3.—This patient was suffering from acute pulmonary tuberculosis and the urine was loaded with indican (first test only). The specimen which was acid was divided into three portions; one was left unpreserved, one was preserved with formaldehyd solution as above; the third was preserved with chloroform in the proportion of one part of chloroform to twenty-five parts of urine. The one to which the formaldehyd solution was added was tested immediately with a negative result (both tests). On the tenth day all were tested; the unpreserved urine was alkaline but showed indican in almost the same amount as at first; the specimen preserved with formaldehyd solution showed no indican, the specimen preserved with chloroform was acid and showed as much indican as the original. (Both tests were used on all specimens).

CASE 4.—Acid urine with a fairly large amount of indican. This was divided into two portions and one left unpreserved. After eight days the specimen preserved with chloroform showed indican, but the result in the unpreserved specimen was doubtful. Both were acid and were acid on the fifteenth day when tests showed indican present in the one preserved with chloroform but absent from the unpreserved specimen. (First test only).

CASE 5.—Acid urine with considerable indican, divided into three portions and formaldehyd solution added to each in the proportion of 1 to 800, 1 to 150, 1 to 75, respectively, as nearly as could be approximated. Tested at once, the first specimen showed some indican but not nearly so much as the untreated urine; the second specimen was doubtful; the third (i. e. 1 to 75) was negative.

CASE 6.—Acid urine with small amount of indican. Formaldehyd solution added to three portions in the proportion of 1 to 1,700, 1 to 700, and 1 to 500, respectively, as nearly as could be approximated. Tested after five days, the first specimen showed some indican, the second result was doubtful, the third specimen negative. After ten days the same specimens showed, the first positive, the second and third negative. (The first test only was used).

In all forty-eight cases were tested, but the results were in no case at variance with the following conclusions, and only selected cases are mentioned above.

CONCLUSIONS

1. Formaldehyd added to urine as a preservative interferes with the tests for indican above described (Cases 1, 2, 3, 5 and 6).

2. This interference seems to be in proportion to the amounts of formaldehyd solution and indican present (Cases 5 and 6).

3. Formaldehyd does not seem to interfere with these tests for the presence of iodin (Case 2).

4. Chloroform as a preservative does not seem to interfere with these tests for indican (Cases 3 and 4).

5. The urine should be examined fresh, if possible, as the indican may disappear from an unpreserved urine on standing (Cases 4 and 2).

The following case is also of interest in this connection:

A patient showing much indican in the morning specimen on each of two successive days was given, on the second day, ten grains of hexamethylenamin in two-grain doses two hours apart. The morning specimen on the third day showed no indican by either of the above tests. No more of the drug was given, and on the fourth day the morning specimen showed considerable indican while on the fifth and sixth days the amount of indican was about as on the first two days. The source, or rather cause, of the indicanuria in this patient could not be determined.

We must conclude from this case that if the patient is receiving hexamethylenamin these tests for indican may fail to show any present, and this failure is probably due to the influence of the formaldehyd contained in the drug.

67½ East Genesee Street.

SUCCUSSION SPLASH IN DIVERTICULUM OF THE ESOPHAGUS

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In a recent paper I referred to the presence of a succussion murmur in one patient with a pharyngo-esophageal diverticulum. The finding of this splash in three other patients similarly affected would seem to indicate that this sign is of distinct value in the clinical investigation of patients. As the real condition in all four of these cases had escaped recognition, a description of this maneuver may be of value.

The patient is asked to drink as much water as he conveniently can, preferably at a time when the sac is most likely to be empty, i. e., the early morning. Then the patient's larynx is grasped by the hand and the soft tissues of the neck vigorously shaken. During this time the patient is requested not to breathe or swallow. The examiner, with the ear near the patient's neck, can readily hear the splash of the fluid in the sac. The dry creak or rattle heard and felt while shaking the larynx of thin or aged people must be differentiated from the splash.

Butler Building.

IMPROVISATION OF A ROLLER BANDAGE FROM A SQUARE OR HANDKERCHIEF BANDAGE

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In emergency cases in which a dressing or a splint is required it sometimes happens that a square or handkerchief bandage does not serve the purpose nearly as well as a roller bandage. The method here described

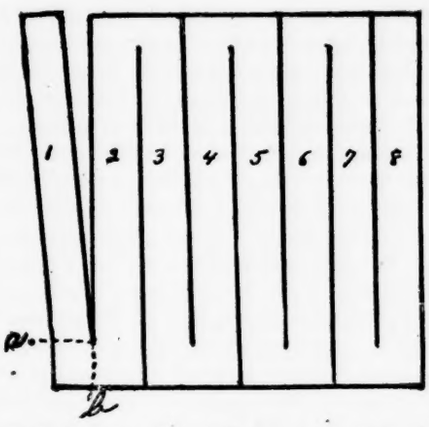

Fig. 1. Method of tearing cloth so as to improvise a roller bandage from a square of cloth.

is one by which a roller bandage may be made from a handkerchief very quickly and easily. It might seem that the improvised bandage would be too clumsy and weak; but if it is applied firmly and neatly it will be

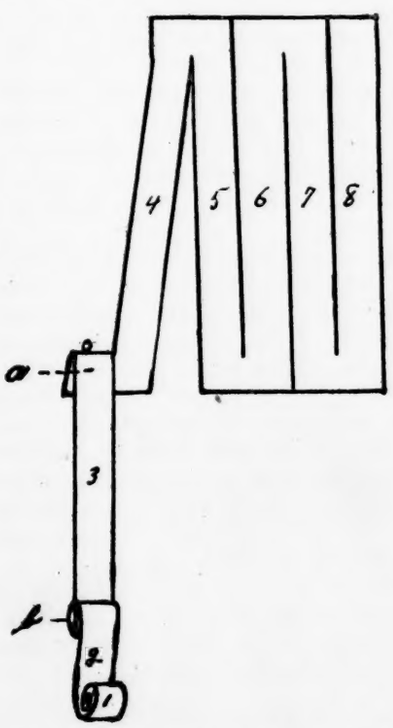

Fig. 2. Method of folding strips of cloth before being rolled.

found to hold quite as snugly as a regular roller bandage.

The cloth is first torn or cut as shown by the heavy lines in Figure 1. The first strip is then folded directly backward or downward, as far as to the point *a* (Fig. 1) where it is joined to the second strip, as shown at *a* (Fig. 2); now the first strip (1) is folded on its longitudinal axis along the line *b* (Fig. 1), so that the first and second strips are in the same straight line as at *b* (Fig. 2). This process is repeated for all the strips, the folding taking place at alternate ends of the square. It makes no particular difference which way each strip is folded to bring it into line with the next one.

The bandage is then rolled and applied like any roller bandage. The strength and neatness of the bandage can be added to a little if it is pinned, before being rolled, at the places where the folds occur; but it works very satisfactorily without this added precaution.

This method can be used with a piece of cloth of any length or width. The bandage, of course, can be improvised out of other shapes than the square. Also the width of the completed roller can be made anything that is desired simply by varying the width of the original strips cut or torn in the square used.

3700 Brooklyn Avenue.

PARTIAL GANGRENE OF THE LEFT INDEX-FINGER

CAUSED BY THE SYMBIOSIS OF THE FUSIFORM BACILLUS AND THE SPIROCHÆTA DENTICOLA

J. F. HULTGEN, M.D.
CHICAGO

L. E., aged 7, was brought to consultation by her relatives August 6, 1910, on account an ill-smelling but fairly painless affection of her left hand, which had existed for a week but had become worse the last two days. On examination I found the nail of the left index-finger hanging to its bed by only a few shreds, covering a necrotic area which was surrounded by discolored, pultaceous, and extremely fetid tissue-remnants. The upper half of the distal phalanx of the left index-finger was destroyed, but the sphacelus was limited at the distal phalangeal joint by slightly irritated, reddish, and moderately swollen tissues. There was similar, but only slight, perionyxis of the left thumb; no systemic disturbance, slight left axillary adenitis; several carious teeth; gums not very healthy; throat negative. The patient was well developed, and evidently in good health.

Microscopically, smears from the affected finger-tips showed a pure culture of the peculiar, symbiosis of two germs, the *Bacillus fusiformis* of H. Vincent (1896) and the *Spirochæta denticola* of W. D. Miller (1892). Preparations from the carious teeth showed the same organisms. The girl is in the habit of biting her fingers, and the etiologic connection between her teeth and the gangrenous affection of the left finger nail-beds is quite plain.

This is, I believe, the first case on record of a gangrenous perionychia due to this symbiosis. It must be remembered that these parasites are also the specific pathogenic agents of the following affections: ulcers-membranous angina (Plaut and Vincent), ulcerative stomatitis (Bergeron, Bernheim and Poposcil), pyorrhea alveolaris or Rigg's disease, of many cases of noma, of hospital gangrene (Vincent), of tropical phagedenic ulcer (Vincent), of balano-posthitis (Bataille and Berdal) the so-called "fourth venereal disease" of F. G. Harris and B. C. Corbus. These germs live as facultative saprophytes in the mouth of normal individuals, and thence are inoculated into various parts of the body, internally as well as externally, attaining there pathogenic virullence under conditions as yet unknown to us.

5041 Ashland Avenue.

Therapeutics

HEMORRHAGE FROM GASTRIC ULCER

Before instituting treatment for this very disturbing condition the physician should remember that statistics show that fatal hemorrhage from ulcer of the stomach is rare, probably not far from 1 per cent. of patients with this trouble dying during hemorrhage. Frequent occurrence of hemorrhages, of course, will soon cause anemia and perhaps lead to very serious loss of nutrition. Long before this condition occurs a surgical cure should have been instituted.

The object of this editorial is to call attention to a discussion of the subject by Dr. J. Kaufmann, of New York (*American Journal of the Medical Sciences*, June, 1910). He very sensibly states, in the first place, that gastric hemorrhage from this cause is rarely fatal; in the next place that an operation performed while the hemorrhage is going on would be extremely unsatisfactory. Either it is not necessary and the hemorrhage has ceased, or the patient is so exsanguinated as to make an anesthetic of any kind unjustifiable, and in the third place, it is difficult at the best, and more especially when there is blood in the stomach, to determine where the ulcer is located. The bleeding stops naturally from two causes; either from vaso-constriction of the bleeding vessel or vessels, or from the formation of a thrombus at the mouth of the bleeding vessel. Anything, then, that would increase the power and force of the general circulation as cardiac tonics, saline transfusions and circulatory stimulants would seem to be, and generally is, contraindicated. It has been repeatedly urged in article after article that cardiac tonics and vasoconstrictors are not indicated when the bleeding point cannot be reached and the hemorrhage locally stopped. In other words, when there is internal hemorrhage, whether somewhere in the abdomen, in the lungs, or in the brain, anything like digitalis or ergot is contraindicated, and when the bleeding stops after such medication it is a matter of sequence and not on account of the drug action. It is perfectly true that venous oozing and venous hemorrhage, sometimes bleeding from the nostrils, bloody expectoration from the lungs, when an insufficient heart is the cause, may be very well stopped by a cardiac tonic like digitalis, but generally when we discuss hemorrhage we mean arterial hemorrhage or an actual erosion of a vessel.

Therefore, anything that depresses the circulation unless the bleeding is sufficient to cause lowered arterial pressure and actual syncope, would be of advantage. It would be a brave man who would do venesection to stop a gastric hemorrhage, but as a matter of fact such treatment would often save the patient blood.

Kaufmann states that he has seen Esmarch bandages placed on the limbs, thus removing this blood from the body circulation, aid in causing the cessation of the hemorrhage.

As to local treatment aimed at stopping the hemorrhage, we can but agree with Kaufmann when he states that styptics and most local hemostatics such as acetate of lead, perchlorid of iron, oil of turpentine, and even tannic acid are as likely to cause nausea and vomiting as to stop the hemorrhage. As above stated, ergot should not be given at all, either by the stomach or hypodermatically. The vasoconstriction which adrenalin locally causes is followed by a reaction dilatation. This Kaufmann thinks may eventually cause a renewal of the hemorrhage. However, by the time of the vasodilatation a thrombus may have become firmly fixed in the bleeding vessel. Gelatin given by the mouth or in any other way is unsatisfactory. Calcium chlorid can do good only after absorption by rendering the blood a little more coagulable, hence it is a useful medicament only in repeated hemorrhages.

Kaufmann speaks of the serum treatment of hemophilia. We cannot see how this can be of any value in perforation of a vessel in the stomach, unless the patient is a hemophilic.

He finds the most satisfactory method of treating gastric hemorrhage is at first to do gentle gastric lavage. He has done this gastric washing so many times with satisfaction that he is not afraid of causing more hemorrhage. He does not believe it can ever cause perforation, unless the stomach is over-distended by very large quantities of water. In fact, if perforation was about to take place, he is not sure but that gastric lavage might save the patient's life by cleaning the stomach before the perforation. In other words, an ulcer that was not ready to perforate would not be perforated by lavage. If in his opinion the hemorrhage had ceased he would not do lavage, but if there was more or less constant bleeding he would do it, and the removal of a possibly insufficient thrombus from the bleeding part would only enhance a better contraction of the blood vessels and prevent a second or repeated serious hemorrhages.

The tube is inserted, (the patient lying down) and pushed just far enough to secure siphonage. The quantity of water used at a washing should be about 300 c.c. This cleansing of the stomach from what may have been there before the hemorrhage and from digesting and decomposing blood is of marked advantage in preventing vomiting and distress and causing the stomach to be at complete rest. In fact, these masses of clotting, disintegrating blood may cause gas and stomach distention and really actually cause another hemorrhage. Kaufmann also finds that a bleeding stomach may suddenly become dilated which would leave blood and perhaps food in the pendent portion, and this alone should be another cause for lavage.

Certainly after the lavage, and often before if it seems that the hemorrhage is about to stop, large doses of "crystalline bismuth subnitrate" should be administered. The crystalline form supposedly sticks more pertinaciously to the surface of the ulcer and allows the blood to agglutinate to the bismuth mass. Bismuth is not sufficiently astringent to contract the blood vessels to stop hemorrhage, but does aid in the coagulation of the blood and at the same time is soothing to the stomach, the exact opposite of the more active astringents.

For the subsequent treatment of gastric ulcer see THE JOURNAL of July 16, 1910, page 219.

It is interesting to note that Kaufmann believes that, paradoxical as it may sound, ulcers that have some time or other caused profuse hemorrhage are those that are the most readily cured.

APPENDICOSTOMY

This surgical procedure in order to better medicate the colon has passed the stage of experiment and is a resource for cure that must be considered in protracted colitis. The development of the various specialities has given increased importance to local treatment. It is

of course true that so-called general or constitutional treatment stands in little danger of being entirely abandoned at any early date. It is also unquestionably true that some specialists in their enthusiasm over operative and local treatment have many times neglected general treatment to the disadvantage of their patients. But one who concentrates his study on a particular part or organ of the body naturally becomes more and more eager to get directly at the seat of the trouble, to examine it with direct vision, to manipulate it with the fingers, and to apply remedies directly to the lesion or to treat it instrumentally or operatively.

The small intestine and the colon long resisted such direct attacks for diagnosis and treatment. Colonic irrigation is a not very ancient attempt to apply local treatment to the large intestine, while exploratory laparotomy greatly broadened our opportunities for diagnostic investigation of the small intestine.

Mayo Robson, in 1893, reported a case of colitis in which a cure had been effected by means of an artificial anus in the colon.

In 1898, Dr. Francis W. Murray, of New York, treated a case of amebic dysentery of two years standing by performing a right inguinal colostomy and subsequently irrigating the colon with antiseptic solutions. The patient left the hospital before he was entirely cured, but was seen six months after, when his condition was found to be very satisfactory. He had gained in weight, was able to resume his work as a tailor, and had an average of two or three movements a day, generally formed, sometimes loose, and generally containing mucus.

By this operation two important indications of treatment were met. First, securing complete rest of the affected part by diverting the feces from the colon, and second, irrigations of the colon with solutions of quinin or nitrate of silver.

Further observation demonstrated that the latter indication was the more important and that the former might be disregarded.

Bolton, in 1901, proposed to make an artificial anus in the cecum with a finger-like projection of the tissue into the lumen of the cecum which should act like a valve and prevent the escape of the intestinal contents.

In 1902, Dr. Robert F. Weir, of New York, having commenced to do Bolton's operation in a case of ulcerative colitis, saw the appendix appear in the wound and decided to utilize it in making the desired fistula, which he did by suturing the appendix in the wound, removing its tip, and through its lumen injecting a solution of nitrate of silver.

Since then this operation has been done by many surgeons in the treatment of a variety of conditions affecting the intestines.

Dr. W. B. Russ, of San Antonio, Texas, has recently published (*Texas State Journal of Medicine*, August, 1909) a comprehensive review of this subject, describing the evolution and the various modifications of the operations and enumerating the various diseases and conditions in which it has proved useful.

The disease in which appendicostomy has its field of greatest usefulness is amebic dysentery. J. M. Holt, of the Public Health and Marine-Hospital Service, has expressed the opinion that this disease is much more common in the United States than has been commonly supposed, and that microscopic examination of the stools will often demonstrate that a "case of intractable diarrhea" is really amebic dysentery. These cases often resist indefinitely all forms of medical treatment.

At first advised only in chronic cases, some surgeons now advise operation in acute cases which do not soon yield to medical treatment. Many remarkable results following operation have been reported by surgeons of widely separated localities. Various solutions have been used for irrigating the bowel. Some excellent results have been reported from simple water; commencing with water at the temperature of the body and using water of lower temperature at each irrigation until ice cold water is used.

Most surgeons have used solutions of quinin 1 to 5,000 to 1 to 2,000, or of nitrate of silver 1 to 1,000 to 1 to 250. The fistula should not be allowed to close until there is no question of the complete recovery of the patient.

In mucous colitis irrigations with nitrate of silver solutions have proved very beneficial. In tubercular and syphilitic ulceration of the colon, irrigations with nitrate of silver solutions and ichthyol solutions, in connection with appropriate general treatment, have caused great improvement and in some instances have effected a cure. Gant, of New York, after a large experience says, "I have no more hesitation in advising appendicostomy and cecostomy for the relief of chronic diarrhea than I have for recommending appendectomy for appendicitis."

Appendicostomy with irrigation has also been recommended in septic peritonitis, in connection with drainage through tubes passed deeply into Douglas' cul-de-sac; in pernicious anemia in which it assists in removing from or diminishing the number of the anaerobic bacteria in the colon; in chronic constipation with headache, insomnia, and mental depression; and in the ileocolitis of children, which is not promptly controlled by dietetic and medicinal treatment.

It is becoming realized of late that in some instances of gastrointestinal irritation in which the symptoms have been attributed to appendicitis, and an appendectomy has been performed, the operation has not effected a cure, but the symptoms have persisted. In such cases there is considerable reason to believe that appendicostomy with irrigation of the colon will relieve the symptoms much more completely than the removal of the appendix and the closure of the abdomen.

Other conditions in which this operation has already proved, or seems likely to prove, beneficial are ileocecal intussusception, volvulus in which the cecum is involved, autointoxication, enteric or typhoid fever; also to prevent gaseous distention of the ileum, and to relieve dangerous post-operative conditions, in which irrigation through the appendix with warm saline solution will prevent or relieve shock, avoid distention, and assist elimination.

In some cases where irrigation of the ileum as well as of the colon is desirable cecostomy may be preferable to appendicostomy.

In rare instances this up and down or proximal and distal irrigation has been accomplished by means of an appendicoenterostomy, the tip of the appendix being opened and fastened into the ileum at its lower extremity. The loop of the appendix being brought into the abdominal wound, and after it had become united to the surrounding tissues being opened, irrigation may be readily performed in both directions.

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[For other information see second page following reading matter

SATURDAY, SEPTEMBER 3, 1910

FOURTH OF JULY CASUALTIES IN 1910

We present this week statistics of deaths and injuries resulting from the celebration of the Fourth of July for 1910. The returns this year are most encouraging, since they show an enormous reduction in the number of deaths and of injuries. The totals are the lowest since THE JOURNAL began the compilation of these statistics in 1903. The reason for this marked reduction in both deaths and injuries is clearly due to the adoption of saner methods of celebration by several of our larger cities and by hundreds of smaller ones. In the bringing about of this change the annual reports of THE JOURNAL have unquestionably had much effect.

Beginning in 1903, THE JOURNAL began the compilation and publication of statistics showing the awful results of the unrestricted use of fireworks. This was done year after year, nevertheless each year the resort to lawlessness continued and the maiming, the killing, the burning to death of little children and the torturing by lockjaw went merrily on. Besides stating the awful toll of life and limb from this annual carousal, THE JOURNAL also pointed out that the responsibility clearly rested with city governments. As the constant dropping of water wears away stone, so this annual presentation of the facts began to have an effect. At first a few public-spirited newspapers—notably the Chicago *Tribune,* which had made a news feature of the list of accidents even before THE JOURNAL began the collection of more complete data—published the facts, then newspapers generally took up the cry and finally numerous magazines and periodicals, so that the demands for restriction of the sale and use of fireworks became too insistent to be disregarded. Several cities like Toledo, Chicago, New York and Boston employed restrictive measures whereby the casualties were greatly reduced, while other cities like Baltimore, Washington, Cleveland and Trenton passed prohibitory ordinances with the result that deaths and injuries were entirely prevented or were reduced almost to the minimum.

On the other hand, municipal authorities, civic organizations, medical societies and others took up the task of providing more intelligent methods of celebration. Two years ago Springfield (Mass.), St. Paul, Detroit, Toledo and other cities arranged special programs in which music, the marching of soldiers, the flying of flags and banners, children's parades, and historic floats illustrating national achievements, were prominent features. The results in these cities were more than satisfactory, and during the past year many other cities provided similar forms of celebration. Chicago this year spent over fifty thousand dollars in its pageant; Pittsburg employed special artists to direct its pageants for this and next year, and cities in all parts of the country reported the adoption of these exemplary methods of commemorating our national freedom—a freedom not to maim and kill for the sake of creating a noise but a freedom which insures to the greatest number of citizens the blessings of life, peace and happiness.

So in the greatly reduced number of casualties this year THE JOURNAL feels the natural satisfaction that its labors have not been in vain. However, it is still too early for a cessation of effort. One hundred and thirty-one people needlessly killed or tortured and nearly three thousand people mutilated, not a few for life, are still too many to permit a conscientious people to halt in this good work.

The movement for reform must go on until our method of celebration has been completely changed from the hitherto pseudo-patriotic frenzy, with its aftermath of suffering and sorrow, to a commemoration which will not only instill in our hearts a just pride in our nation, in its achievements and in its customs, but—and this is still more important—a commemoration which will create a stronger love for law, order and civilization. And when could such ideals be better set forth than in the celebration of July Fourth? Every paper we pick up and every popular magazine have articles nowadays showing that low morals, disregard for law, and graft, in high places and low, are rife enough without giving over our national holiday to further this decadence in our national life.

The commemoration of the Fourth of July is the nation's greatest opportunity for preaching the gospel of national and civic righteousness and for pointing the attention of hundreds of thousands of children to the characters which have made and developed this nation.

To THE JOURNAL it seems as though this is but the beginning of a mighty movement, not only to do away with the wanton destruction of life and limb by the use of fireworks, but to make of our national holiday a day of national upbuilding, a day for calling attention to the important incidents in American history; in fact, a day for the development of a genuine patriotism.

A HITHERTO UNDESCRIBED SEXUAL GLAND

The field of anatomy has been so thoroughly covered by investigation as to make one feel that there remains but little to be discovered. Yet every now and then a new fact comes to light, and therefore those engaged in this line of inquiry need not despair of the result of their researches. A recent careful study shows that the accepted explanation of a long-recognized fact has been based on a fallacy in observation.

It has been noted that at times the urethra in some of the lower animals is occluded by a coagulum, whose formation has been attributed to the interaction of the secretions of the prostate gland and the seminal vesicles. It now turns out, according to a discovery made by Dr. George Walker,[1] that this phenomenon is in reality due to the mixture of the secretions of the seminal vesicles and of two small glands adjacent to the vesicles and hitherto supposed to form a part of the prostate. This observer found that coagulation did not take place when a pure secretion obtained from the anterior lobes of the prostate was employed, but it did take place immediately when secretion from a small glandular structure lying in the same sheath of fascia as the seminal vesicles was used for the purpose.

The gland in question consists of two lobes differing morphologically and histologically from the prostate and giving rise to an independent and distinct secretion. It is reasoned that it is the function of the prostate gland to furnish a secretion in which spermatozoa can move freely and acting as a diluent and perhaps as a stimulant, while the secretion furnished by the newly isolated gland causes coagulation of the secretion of the seminal vesicles so that a plug is formed in the outer portion of the vagina, and thus prevents the escape of deposited semen. The gland has been found in rats, guinea-pigs, mice and probably in hedgehogs, but not in human beings, rabbits and bullocks. It is further thought not to be present in the *Carnivora*, most of which have no seminal vesicles. In human beings the existence of the gland is suggested by the presence of coagulated particles in the semen and it may be the purpose of such coagula to prevent escape of spermatozoa from the vagina when the female is in the upright position.

1. Walker, G.: Bull. Johns Hopkins Hosp., June 10, 1910, p. 182.

INFLUENCE OF AGE AND TEMPERATURE ON THE POTENCY OF DIPHTHERIA ANTITOXIN

Many physicians, having occasion to use diphtheria antitoxin, have found that the return date on the package to be used had been reached or passed. This raised a doubt in their minds as to whether they should use this or obtain a newer package. Until recently there was little information on the question of the influence of age and temperature on the potency of diphtheria antitoxin and considering the importance of the subject it is surprising how little attention it has received from workers with serum. The question has recently been taken up by Anderson[1] in the Hygienic Laboratory.

Most of the work previously reported had been done by serum experts employed by the manufacturers of antitoxin, and while in some instances a large number of different lots of serum were examined, the experiments were not sufficiently conclusive to be of value owing mainly to the fact that the potency of the serum had not been determined within sufficiently close limits to justify an exact determination of the loss in potency. The results also lost some of their value on account of failure to take into consideration the excess allowed by all producers for decrease in potency of serum when put on the market.

Anderson studied the influence of age and temperature on eighteen lots of diphtheria antitoxin, fourteen being the untreated horse serum and four the globulin preparation. Each lot of serum studied by him was divided into three portions; one portion was kept at room temperature, one at 60 F., and the other at about 40 F. The potency of each lot was determined every six months for three years, at the end of which time the results were tabulated and published. As a result of his work he finds that the average yearly loss in potency of diphtheria antitoxin at room temperature is about 20 per cent.; at 60 F. about 10 per cent.; at 40 F. about 6 per cent., though in some instances these percentages were increased. There appears to be but little difference in the keeping properties of the untreated serums and the globulin solution.

In regard to the lack of confidence in old serums, Anderson says that the only reason for not using such serums would be that a larger amount would have to be used to allow for the decrease in potency; but that old serums, unit for unit, are just as potent as fresh serums and would be perhaps less apt to cause severe reactions than fresh serums. He found that when diphtheria antitoxin was dried and kept in the dark at 40 F. it retained its potency practically unimpaired for five and one-half years. He suggests that such a dried antitoxin might be of value for use on long voyages and in the tropics.

1. Anderson, John F.: The Influence of Age and Temperature on the Potency of Antidiphtheric Serum and Antitoxin Globulin Solution, Jour. Infect. Dis., 1910, vii, 481.

Current Comment

POLIOMYELITIS

Reports indicate that poliomyelitis or infantile paralysis is quite prevalent in an epidemic form in many parts of the country. In some cases the true nature of the disease does not seem to have been appreciated until a considerable number of cases had occurred. This fact emphasizes the importance of physicians being on the lookout for the earlier cases, so that the disease can be controlled before it becomes epidemic. The conception

of the disease has somewhat widened in consequence of recent investigations and experience. That it has the nature of a general infection is evident from the manner of onset in many instances. Symptoms referable to the general system or to the digestive tract are apt to precede those which indicate the seat of the principal lesions in the nervous system. The early symptoms may also indicate involvement of the cerebrum so that the incautious practitioner may be led to conclude that he is dealing with an acute local disease of the brain. The general character of the early symptoms and the known prevalence of the disease should lead the physician to suspect the occurrence of poliomyelitis in cases presenting obscure indications of general infection with involvement of the nervous system. While the mode of transmission is not yet worked out it is evident that the disease is contagious, although there seems to be marked differences in susceptibility. The isolation of actual or even suspected cases is therefore important. Such isolation should be especially strict as regards young children. Unfortunately no curative or immunizing serum has yet been perfected, but with the activity of present bacteriologic research we may hope for an improved method of diagnosis and a specific treatment in the near future.

CHOLERA AND SUPERSTITION

Reports from southern Russia indicate that cholera is especially prevalent, while in St. Petersburg, with 1,000 cases in the hospitals, the number is increasing daily. The Russian authorities are said to be unable to suppress the spread of the disease and, too often with fatalism, regard it as unavoidable. The educated classes are inert and indifferent, while the peasants are fiercely opposing the sanitary authorities in their efforts to prevent the spread of the disease, attributing it, as usual, to the officials and the doctors who are trying to suppress it. Bulletins issued by the Russian government August 19 show a total to date of 112,985 cases, with a death roll of 50,287. As these figures show only the reported cases and deaths, it is probable that the actual numbers are even greater. Ignorance, superstition and fanatical opposition to progress still go hand in hand with filth, preventable diseases and an unnecessarily high death rate.

ABOLISH THE BLANK CARTRIDGE PISTOL

Blank cartridge wounds in eight years have caused 860 cases of tetanus, or 81.5 per cent. of all tetanus cases from Fourth of July injuries. Furthermore blank cartridge wounds cause more deaths in the annual celebration of our Independence Day than all other factors combined. In eight years, 854 deaths have been caused by this one factor! Most of the victims were bright, active boys from 6 to 18 years of age, who were doomed to die the most awful death known to medical science—a death the agony of which is probably not paralleled even by the tortures of the Inquisition. If this annual sacrifice were really necessary, it would be far more merciful to pick out the hundred or more youths each year and deliberately shoot them. But this annual outrage is not necessary; it is entirely preventable, and the prevention rests with the authorities of cities, towns and villages. For eight years THE JOURNAL has heralded these facts to the world; they have been given even wider publicity by some of our public-spirited newspapers and periodicals, and now no one can plead ignorance of the awful facts. Nevertheless, the governing bodies of the majority of our cities still view with the blind eye of callous indifference the fatalities for which they are morally responsible. Some cities have, indeed, passed prohibitory ordinances, but have not enforced them vigorously. To permit the use of blank cartridges and blank cartridge pistols at any time is little less than criminal.

WILLIAM JAMES

The death of Prof. William James, the eminent psychologist and writer, removes a distinguished member of the medical profession, though the fact that he was a member of our profession may not be generally known. Dr. James graduated from Harvard Medical School in 1869 and from 1872 to 1880 he taught in that school, first anatomy and later physiology. It was but a short step from physiology to philosophy, which he commenced to teach in 1880; and a still shorter one to psychology, of which he became professor in 1889. He is best known as a psychologist, both in this country and abroad. He would have been prominent in his original profession, but his work in mental science has so put in the shade his earlier record that it has been almost forgotten that he was a physician and a medical teacher. There is hardly any modern philosopher who is more often quoted in medical works, more especially those treating of mental affections and the mental treatment of disease. By his death our country has lost one of its most brilliant and lucid thinkers and broadest-minded philosophic investigators. Incidentally, as an instance of heredity of talent, it is worth mentioning that he was a son of a talented clergyman, and his brother, Henry James, Jr., is the well-known psychologic novelist whose name is familiar to lovers of literature wherever the English language is spoken.

DOLLARS VERSUS LIVES

The recent hearing at Washington in the Indiana benzoate of soda case places the manufacturers involved in a somewhat equivocal position through the emphatic replies of Dr. Wiley to some of the questions put to him. In the course of the cross-examination, according to the press despatches, the following statements were made:

"These tests are immensely important to the business world and involve thousands of dollars in property and products," said the attorney for the manufacturers.

"I don't care a hang for the business world," Dr. Wiley replied, promptly, "what I care for is the health of the people."

"You consider that more important than the interests of those who have hundreds of thousands of dollars tied up in property and products?" asked the attorney.

"I most certainly do," replied Dr. Wiley, "where there are thousands of dollars involved, there are millions of lives hanging in the balance which these investigations affect. It is these which I consider and not the business which may be done by any corporation."

Friends of the national Food and Drugs Act and advocates of its proper enforcement are certainly under obligations to the attorneys for the manufacturers for giving Dr. Wiley an opportunity to make such a straightforward statement of his position. THE JOURNAL and the medical profession have insisted from the beginning that the campaign was one of dollars versus lives. It was not to be expected, however, that the issue would be so clearly defined by the manufacturers themselves.

VITAL STATISTICS A BUSINESS ASSET

The Mississippi Land Development Association desires to attract immigration to that state. In preparing literature, the committee wished to make positive statements concerning the comparative healthfulness of the state. When the association attempted to secure reliable data on this point, however, it was found that no records of any sort existed by which the mortality or morbidity of the state could be ascertained. This proved such a serious drawback that business men interested in real estate and land development have taken up the question as a business proposition and are inaugurating a movement for the passage of a vital statistics law in order that official records of the state's healthfulness may be obtained. This action in a southern state is particularly gratifying, as that section has for many years been without adequate vital statistics. Only by carefully compiled official records is it possible to overcome the popular impression, which was created by serious epidemics in past years, of the comparative unhealthfulness of that portion of the country. It is therefore important that southern states adopt and enforce adequate vital statistic laws in order that the mortality and morbidity of the population may be a matter of record and not of rumor or surmise. Increasing healthfulness consequent on the suppression of malaria, yellow fever and hookworm disease, will be one of the best business assets for the new south.

HOGS SAVED FROM CHOLERA: NO HELP FOR BABIES

Two items recently appeared in a southern newspaper which apparently have no relation and yet are extremely suggestive. Here is the first one:

HOG-CHOLERA ERADICATED.—A report comes from Jackson that hog-cholera has been entirely eradicated from the state. Only one case was reported, it is said, that one being near Natchez. The usual serum was prepared and administered with excellent effect, so that there is said to be not a single case in Mississippi at the present time. The live-stock commission furnishes the serum for hog-cholera free of charge to veterinarians, and in the event of any outbreak, it can be quickly administered and the disease immediately suppressed.

The second was not considered of sufficient importance to call for a heading:

Without warning, little John McCabe, ten years old, son of Mrs. Elizabeth McCabe, was stricken by the hand of death this morning, and forty-five minutes later was no more. Death was due to spinal meningitis.

Careful examination of previous and subsequent issues of the newspaper fails to show that the state which furnished serum for hog-cholera made any effort to secure a serum to save the life of little John McCabe, or to prevent the development of more cases of meningitis. A single case of hog-cholera is reported at once and the state live-stock commission takes immediate action. Yet no one knows how many children in Mississippi are suffering from spinal meningitis or even how many have died from that dread disease in the last year. The state which demands a report of every case of hog-cholera does not even record the death of a child from spinal meningitis or from any other cause. Another strange feature—no one objects to the state suppressing hog-cholera. In fact, the hogs of Mississippi have not even organized a National League of Medical Freedom.

FLORENCE NIGHTINGALE—HER WORK IS HER MONUMENT

The other day, Florence Nightingale was laid to rest in a quiet country churchyard in Hampshire. But for her known opposition to notoriety, the popular demand for her interment in Westminster Abbey would doubtless have been carried out. It was the personal request of the "Angel of the Crimea" that the strictest privacy should mark her funeral. It is proposed to erect a tablet in Westminster Abbey, as well as a public monument in London in memory of the woman who lessened the horrors of military hospitals and helped to ameliorate so far as possible the barbarities of war. This is right. But no monument can be erected that will adequately commemorate the services of this remarkable woman.

EIGHTH ANNUAL SUMMARY OF FOURTH OF JULY INJURIES

For the eighth consecutive year we are presenting statistics of injuries received during the celebration of the Fourth of July, with particular reference to tetanus resulting from these injuries. Every possible effort has been made to secure reliable data and all serious cases have been carefully investigated, so that, so far as the figures go, dependence may be placed on them. Lists of the patients treated at a large number of hospitals have been sent in and thousands of letters have been received from physicians in all parts of the country. In this way many cases have been reported which otherwise could not have been included in the statistics. Doubtless many injuries occurred which were not reported, but these must have been of very minor character. Thanks are extended to the health officers, the hospital superintendents, the physicians and others for the careful reports which have made these statistics practically complete and the figures reliable. The data are presented in the same manner as heretofore so that comparisons with the figures of previous years may be made.

FEWER CASES OF TETANUS

There were 72 cases of tetanus this year, the lowest number reported during the eight years THE JOURNAL has been gathering these statistics and less than half the number of last year, when 150 cases were reported.

It is a significant fact that the number of blank cartridge wounds shows a correspondingly large decrease, from 1,225 last year to 450 this year (Table 6). It is interesting also to note that, since they form the most prolific cause of tetanus, wounds from the formerly considered "harmless" blank cartridge result in a higher percentage of deaths (12.7) than those from loaded firearms (10.2 per cent.). The most common cause of the wound is the blank cartridge and the most common site is the hand. Of the 72 lockjaw patients all but one were males, and all but 6 were under 18 years of age. The youngest was 6 years old, the oldest was 56 and the average age was 13½ years.

The duration given in the table is the number of days between the time of the injury and death or recovery. Figures are also given (in parentheses) showing the number of days following the injury, before active symptoms appeared. This was 3 to 10 days, the average for fatal cases being 6½ days. A longer incubation period probably indicates a less virulent infection and, therefore, a better chance for recovery under treatment. Following the appearance of the symptoms, death resulted in from 1 to 8 days, the average of all cases this year for which this information was given being 2¾ days. In six cases the entire duration of time between inoculation and death was five days or under, the shortest being three days. The average for all fatal cases reported was about 10 days.

USE OF ANTITOXIN

So far as reports were received tetanus antitoxin was employed in 25 cases, but in only one instance this year, according to the report, was it employed before the active symptoms had set in. In this one case (occurring in Ogden, Utah), antitoxin was not given until the fourth day because no supply had been provided by the city and the physician was unable to secure it before that time. The value of tetanus antitoxin as a prophylactic appears so positive that very few cases have ever been reported in which active symptoms began after its administration. The list of tetanus cases is given in Table 1.

Tetanus occurred in 18 states, 7 less than last year and 2 less than 1908. Heretofore for five years Illinois has had the largest number, having had 20 cases last year, but this year that state reports 10 cases, falling below Michigan and Pennsylvania, each of which had 11. New Jersey had only 9 cases this year as compared with 19 last year, and Ohio reports only 4 cases this year, whereas there were 12 last year. Table 2 allows comparison of the number of cases in each state for the eight years.

Blank cartridges continue to be responsible for the great majority of tetanus cases, 64, or 88.9 per cent., this year being due to that cause as compared with 86.5 per cent. last year, 73.3 per cent. in 1908, 71 per cent. in 1907 and 60 per cent. in 1906. With the full knowledge of the awfulness of the deaths caused by blank cartridge wounds it is certainly inexcusable that the use of these instruments of torture is not absolutely prohibited. Five cases of tetanus this year were from gunshot wounds, 2 were due to injuries by firecrackers and 1 was caused by a dynamite cap. None

TABLE 1.—CASES OF TETANUS

Name.	Sex.	Age.	Cause of Wound.	Site of Wound.	Duration in Days*	Day Antitoxin was used.	Termination.
CALIFORNIA							
Lauritson	M.	25	Gunshot	Hand	(5) 7	..	D.
ILLINOIS							
Bailey	M.	12	Bl. etg.	Hand	(10)18	..	D.
Crowe	M.	9	Bl. etg.	Hand	(7) 9	..	D.
Ford	F.	38	Bl. etg.	Hand	17	..	D.
Hampton	M.	13	Firecracker	Hand	(5) 6	..	D.
Hendrichson	M.	9	Bl. etg.	Side	5	..	D.
Longwell	M.	14	Bl. etg.	Finger	(8)10	No	D.
Lukashasski	M.	11	Gunshot	Hand	10	..	D.
Panter	M.	15	Bl. etg.	Finger	(6) 8	7	D.
Pierre	M.	13	Bl. etg.	Finger	..	..	D.
Scholes	M.	14	Bl. etg.	Hand	(5) 6	5	D.
INDIANA							
Barnes	M.	Adult	Gunshot	Hand	(5)	..	D.
Jackson	M.	12	Bl. etg.	Hand	14	..	D.
Kardasz	M.	10	Bl. etg.	Hand	4	..	D.
Lacey	M.	12	Bl. etg.	Hand	(6) 8	No	D.
Seifert	M.	9	Bl. etg.	Hand	..	..	R.
Williams	M.	12	Bl. etg.	Hand	10	7	D.
IOWA							
Reese	M.	14	Bl. etg.		10	..	D.
MAINE							
Stabler	M.	9	Bl. etg.	Leg	..	..	...
MARYLAND							
Hanna	M.	11	Bl. etg.	Hand	(9)16	..	D.
MICHIGAN							
Bean	M.	8	Firecracker		..	..	D.
Congdon	M.	13	Bl. etg.	Hand	(6) 8	6	D.
Cousani	M.	6	Bl. etg.	Hand	(4) 5	5	D.
Engstrom	M.	22	Gunshot	Hand	12	..	D.
Lathridge	M.	13	Bl. etg.	Hand	6	..	D.
Reed	M.	6	Bl. etg.	Shoulde	8	..	D.
Rogner	M.	10	Bl. etg.	Finger	11	..	D.
Shrock	M.	14	Bl. etg.	Finger	(7)12	7	D.
Soronen	M.	11	Bl. etg.	Hand	(6) 8	6	D.
Tervanen	M.	56	Bl. etg.	Hand	7	..	D.
Wallin	M.	11	Bl. etg.	Hand	9	..	D.
MISSOURI							
Anderson	M.	12	Bl. etg.	Hand	8	..	D.
Stotzer	M.	12	Bl. etg.	Hand	(6)10	6	D.
MONTANA							
Norris	M.	10	Bl. etg.	Hand	(9)	9	R.
Smith	M.	8	Bl. etg.	Hand	6	..	D.
NEBRASKA							
Chapman	M.	10	Bl. etg.	Arm	10	..	D.
NEW JERSEY							
Bellis	M.	11	Bl. etg.	Finger	10	..	D.
Daljuic	M.	14	Bl. etg.	Face	..	..	...
Gourley	M.	12	Bl. etg.	Hand	(8)11	..	D.
Hoffman	M.	12	Bl. etg.	Hand	..	..	D.
Karcher	M.	11	Gunshot	Hand	(6) 9	7	D.
Kappes	M.	17	Bl. etg.	Finger	(6)10	7	D.
Strang	M.	11	Bl. etg.	Hand	..	..	D.
Van Gorden	M.	14	Bl. etg.	Finger	(7) 9	No	D.
Wilson	M.	12	Bl. etg.	Finger	(7) 8	7	D.
NEW YORK							
Anthony	M.	9	Bl. etg.	Hand	6	..	D.
Cole	M.	17	Bl. etg.	Hand	5	..	D.
Knapp	M.	18	Bl. etg.	Thign	(7)11	7	D.
Muckey	M.	15	Bl. etg.	Arm	7	..	D.
Rafelyea	M.	11	Bl. etg.	Hand	(6) 8	7	D.
See	M.	13	Bl. etg.	Hand	(8)16	9	D.
Taylor	M.	Boy	Bl. etg.	Hand	(6) 9	..	D.
OHIO							
Arendt	M.	12	Bl. etg.	Thigh	(6) 7	6	D.
Bumb	M.	15	Bl. etg.	Hand	9	..	D.
Liebenderfer	M.	14	Bl. etg.	Hand	7	..	D.
PENNSYLVANIA							
Adamski	M.	21	Bl. etg.	Hand	(7) 8	7	D.
Anczak	M.	15	Bl. etg.	Finger	(5) 7	6	D.
Bovitch	M.	38	Bl. etg.	Arm	5	..	D.
Dunshock	M.	10	Bl. etg.	Hand	14	..	D.
Fanell	M.	11	Bl. etg.	Finger	(3) 5	3	D.
Mullaney	M.	12	Bl. etg.	Finger	(5) 7	6	D.
Rosbaugh	M.	11	Bl. etg.	Hand	(6) 8	7	D.
Serbo	M.	7	Bl. etg.		8	..	D.
Sutherland	M.	16	Bl. etg.	Hand	(10)13	12	D.
Tenant	M.	11	Bl. etg.	Hand	8	..	D.
Teri	M.	7	Bl. etg.	Leg	8	..	D.
UTAH							
Clark	M.	17	Bl. etg.	Hand	(8) 9	4	D.
WASHINGTON							
Miller	M.	12	Bl. etg.	Hand	10	..	D.
WISCONSIN							
Heinze	M.	8	Bl. etg.	Hand	..	..	R.
Pizzo	M.	12	Dyn. cap.	Hand	(7) 8	7	D.
Sauve	M.	11	Bl. etg.	Finger	(7)11	7	D.
OKLAHOMA							
Metler	M.	9	Bl. etg.		8	..	D.

* Figures in parentheses show incubation period.

TABLE 2.—TETANUS CASES BY STATES
Comparison with Previous Years

	1903	1904	1905	1906	1907	1908	1909	1910
Alabama	..	..	1	..	..	..	..	..
Arizona	..	..	..	..	1	..	..	..
California	2	4	4	3	1	..	2	1
Colorado	4	..	1	..	..	..	..	..
Connecticut	3	..	3	..	4	1	..	..
Delaware	..	..	1	1	1	..	2	..
District of Columbia	1	..	..	..	..	..	..	..
Florida	..	..	..	..	..	..	1	..
Georgia	..	..	..	..	1	..	..	..
Idaho	1	..	..	..	..	..	1	..
Illinois	49	15	20	16	12	12	20	10
Indiana	11	6	3	8	2	..	9	6
Iowa	14	2	3	4	4	1	1	1
Kansas	11	1	..	..	2	1	6	..
Kentucky	4	2	..	1	..	1	1	..
Louisiana	..	..	..	..	..	..	..	..
Maine	2	4	1	1	..	1	1	1
Maryland	1	..	1	1	..	..	2	2
Massachusetts	16	5	7	3	2	5	8	..
Michigan	29	7	9	4	4	2	11	11
Minnesota	15	2	2	2	2	..	..	..
Missouri	29	1	3	3	1	5	8	2
Montana	2	1	1	..	1	..	3	2
Nebraska	4	3	3	1	..	1	3	1
New Hampshire	2	..	..	1	..	..	1	..
New Jeresy	8	9	3	10	8	10	19	9
New York	36	9	6	8	4	9	11	7
North Dakota	..	..	..	..	..	..	..	..
Ohio	67	9	5	7	6	7	12	3
Oklahoma	1	..	1	1	..	1	..	1
Oregon	2	..	..	1	1	1	..	..
Pennsylvania	82	17	12	5	7	7	10	11
Rhode Island	3	..	..	1	..	..	..	..
South Carolina	..	..	..	..	..	..	..	..
South Dakota	..	..	..	..	..	1	1	..
Tennessee	..	..	..	..	..	..	..	..
Texas	..	..	..	..	2	..	..	..
Utah	..	1	1	..	..	..	..	1
Vermont	3	2	..	2	2	..	..	..
Washington	2	1	..	..	2	4	4	1
West Virginia	3	..	..	2	..	1	4	..
Wisconsin	10	4	13	2	3	5	9	3
Wyoming	..	..	..	1	..	..	..	..
Total	415	105	104	89	73	76	150	72
No. states having cases	30	21	23	25	23	20	25	18

was caused by toy cannon this year. The causes of the tetanus cases from Fourth of July injuries for each of the past eight years are shown in Table 3.

TABLE 3.—CAUSES OF TETANUS CASES

Year.	Blank Cartridge.	Giant Cracker.	Cannon.	Fire-arms.	Powder, etc.	Total.
1903	363	17	5	3	27	415
1904	74	18	5	1	7	105
1905	65	17	4	5	13	104
1906	54	17	1	7	10	89
1907	52	8	6	4	3	73
1908	58	5	4	3	6	76
1909	130	9	1	4	6	150
1910	64	2	..	5	1	72

Of the 72 cases of tetanus from Fourth of July injuries this year 67, or 93.1 per cent. ended fatally as compared with 84 per cent. last year, 72 per cent. in 1908, 85 per cent. in 1907 and 84 per cent. in 1906.

TETANUS FROM INJURIES NOT CAUSED BY FIREWORKS

Besides the cases of lockjaw due directly to Fourth of July fireworks, it is interesting to note also those due to penetrating wounds from other causes, such as nails or splinters, to crushing injuries, etc. There were only 47 such cases reported during the Fourth of July season this year or about one-third the number of last year, when 128 were reported. The cases of tetanus due to other than Fourth of July injuries are shown by states in Table 4. A comparison of this table with Table 2 is interesting.

TABLE 4.—CASES OF TETANUS FROM OTHER CAUSES

	1908	1909	1910		1908	1909	1910
Alabama	..	..	1	Nevada	..	..	..
Arizona	..	..	..	New Hampshire	..	..	..
Arkansas	2	..	..	New Jersey	7	8	8
California	4	4	1	New Mexico	..	1	..
Colorado	3	..	..	New York	17	12	4
Connecticut	2	2	..	North Carolina	1	..	..
Delaware	2	1	..	North Dakota	1	..	..
District of Columbia	..	..	..	Ohio	23	13	2
Florida	2	..	..	Oklahoma	..	..	..
Georgia	..	1	..	Oregon	..	1	3
Idaho	..	..	..	Pennsylvania	21	21	8
Illinois	17	18	7	Rhode Island	..	1	..
Indiana	6	4	1	South Carolina	..	..	..
Iowa	2	7	3	South Dakota	2	2	..
Kansas	4	..	1	Tennessee	3	..	..
Kentucky	5	5	..	Texas	4	1	1
Louisiana	1	..	..	Utah	..	..	..
Maine	..	..	..	Vermont	..	..	1
Maryland	3	..	2	Virginia	4	1	..
Massachusetts	3	5	..	Washington	2	..	..
Michigan	4	5	1	West Virginia	..	1	..
Minnesota	4	2	..	Wisconsin	5	4	1
Mississippi	..	..	..	Wyoming	..	..	..
Missouri	12	5	1				
Montana	..	..	..	Total	166	128	47
Nebraska	..	3	1	States reporting cases	29	25	18

DEATHS FROM FIREWORKS, ASIDE FROM TETANUS

Besides the 67 deaths due to tetanus, 64 persons were killed by various forms of fireworks, making a total of 131, a decrease of 84 below last year and 32 less than in 1908. This is the lowest number of deaths from such causes since THE JOURNAL began publishing these statistics in 1903. Nineteen people were killed outright this year by firearms, 11 by explosions of powder, bombs or torpedoes, 3 by cannon and 3 by various causes, as blood poisoning, explosion of chemicals, etc., while 26, mostly little girls, were burned to death by fire from fireworks, in several instances, from the so-called "harmless" varieties. All accidents not due directly to the discharge or handling of fireworks or other means of noise production and display on or about the Fourth of July have been omitted. Table 5 shows a comparison of other causes of death than tetanus for the past six years.

TABLE 5.—CAUSES OF DEATHS NOT DUE TO TETANUS

Year.	Gunshot.	Fire from Fireworks.	Powder. Torpedoes, etc.	Giant Crackers.	Cannon.	Other Causes.	Total
1905	37	23	6	5	7	17	95
1906	38	18	18	3	3	3	83
1907	20	31	13	13	3	22	102
1908	30	22	19	23	7	7	108
1909	17	37	16	7	7	6	90
1910	19	26	11	2	3	3	64

In Table 6 will be found a summary of all injuries including tetanus, and of all causes arranged by states. Beneath the totals at the bottom are given the totals for the seven previous years in order that comparisons may be made. The grand totals for the eight years are also given. Table 7 allows of comparison by states of the total deaths and accidents for the eight years.

The decrease in the number of injuries is most remarkable this year and unquestionably is the result of the efforts to secure more intelligent methods of celebration. This is evident from the fact that the most marked decreases are in the states which heretofore have had the largest numbers injured and where the agitation for restrictive measures was strongest. Mas-

TABLE 6.—SUMMARY BY STATES OF JULY FOURTH CASUALTIES

States.	Deaths.			Injuries.						Total Persons Dead or Injured.	Causes of Tetanus Cases.		Causes of all Cases Aside from Tetanus Cases.				
	From Tetanus.	From Other Causes.	Total.	Loss of Sight.	Loss of One Eye.	Loss of Legs, Arms or Hands.	Loss of Fingers, One or More.	Other Injuries.	Total Non-Fatal Injuries.		Blank Cartridge.	All Other Causes.	Blank Cartridge.	Fire Crackers.	Cannon.	Firearms.	Powder and Fireworks.
Alabama	.....	1	1	.....	.....	.....	.....	2	2	3	.....	.....	1	.....	.....	2	.....
Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Arkansas	.....	.....	.....	.....	.....	.....	.....	4	4	4	.....	.....	1	3	.....	.....	.....
California	1	2	3	.....	.....	1	7	52	60	63	.....	1	6	23	3	5	25
Colorado	.....	1	1	.....	.....	.....	2	16	18	19	.....	.....	.....	17	.....	.....	2
Connecticut	.....	1	1	.....	1	1	7	68	77	78	.....	.....	26	16	13	9	14
Delaware	.....	.....	.....	.....	.....	1	.....	7	8	8	.....	.....	2	5	.....	1	.....
District of Columbia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Florida	.....	1	1	.....	.....	.....	.....	3	3	4	.....	.....	1	1	1	.....	1
Georgia	.....	.....	.....	.....	.....	.....	.....	5	5	5	.....	.....	.....	.....	.....	.....	5
Idaho	.....	.....	.....	.....	.....	.....	.....	3	3	3	.....	.....	.....	2	.....	.....	1
Illinois	10	4	14	.....	4	1	15	251	271	285	8	2	53	105	18	15	84
Indiana	5	3	8	.....	2	1	9	147	159	167	5	1	13	87	10	12	39
Iowa	1	3	4	.....	1	.....	3	133	137	141	1	.....	8	64	9	6	53
Kansas	.....	2	2	.....	.....	.....	.....	48	48	50	.....	.....	9	12	11	1	17
Kentucky	.....	1	1	.....	.....	.....	.....	25	25	26	.....	.....	3	10	1	.....	12
Louisiana	.....	.....	.....	.....	.....	.....	.....	4	4	4	.....	.....	.....	2	.....	2	.....
Maine	.....	.....	.....	.....	.....	.....	.....	7	7	7	1	.....	1	4	.....	.....	1
Maryland	1	.....	1	.....	.....	.....	1	6	7	8	1	.....	1	1	1	1	3
Massachusetts	.....	2	2	.....	1	.....	3	57	61	63	.....	.....	4	11	4	8	36
Michigan	11	4	15	.....	2	2	11	113	128	143	9	2	20	56	6	5	45
Minnesota	.....	1	1	1	4	1	1	56	63	64	.....	.....	2	25	9	5	23
Mississippi	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Missouri	2	1	3	1	1	.....	3	104	109	112	2	.....	25	48	6	4	27
Montana	1	.....	1	.....	.....	.....	.....	9	9	10	2	.....	1	6	.....	.....	1
Nebraska	1	.....	1	.....	1	.....	.....	34	35	36	1	.....	3	7	.....	6	19
Nevada	.....	.....	.....	.....	.....	.....	1	.....	1	1	.....	.....	.....	1	.....	.....	.....
New Hampshire	.....	.....	.....	.....	.....	.....	1	9	10	10	.....	.....	3	3	1	.....	3
New Jersey	8	4	12	1	.....	3	5	146	155	167	8	1	32	41	8	22	55
New Mexico	.....	.....	.....	.....	.....	.....	.....	3	3	3	.....	.....	2	1	.....	.....	.....
New York	7	9	16	1	7	5	9	289	311	327	7	.....	63	80	34	45	98
North Carolina	.....	.....	.....	.....	.....	.....	.....	1	1	1	.....	.....	.....	.....	1	.....	.....
North Dakota	.....	.....	.....	.....	.....	.....	2	11	13	13	.....	.....	1	8	1	1	2
Ohio	3	5	8	1	3	1	7	146	158	166	3	.....	31	67	9	12	44
Oklahoma	1	.....	1	.....	.....	1	1	8	10	11	1	.....	2	6	.....	.....	2
Oregon	.....	.....	.....	.....	.....	.....	1	18	19	19	.....	.....	.....	10	3	.....	6
Pennsylvania	11	14	25	2	3	2	14	577	598	623	11	.....	33	200	43	49	287
Rhode Island	.....	.....	.....	.....	.....	.....	.....	19	19	19	.....	.....	3	3	2	2	9
South Carolina	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
South Dakota	.....	.....	.....	.....	.....	.....	.....	4	4	4	.....	.....	2	.....	.....	.....	2
Tennessee	.....	.....	.....	.....	.....	1	.....	9	10	10	.....	.....	4	2	1	2	1
Texas	.....	.....	.....	.....	.....	.....	.....	2	2	2	.....	.....	1	.....	.....	.....	1
Utah	1	1	2	.....	.....	.....	.....	6	6	8	1	.....	1	3	.....	3	.....
Vermont	.....	.....	.....	.....	.....	1	.....	3	4	4	.....	.....	1	3	.....	.....	.....
Virginia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Washington	1	.....	1	.....	.....	.....	1	4	31	36	37	1	.....	3	14	1	2	16
West Virginia	.....	.....	.....	.....	.....	.....	.....	20	20	20	.....	.....	.....	.....	17	.....	2	1
Wisconsin	2	4	6	.....	3	2	7	153	165	171	2	1	24	83	16	6	39
Wyoming	.....	.....	.....	.....	.....	.....	1	3	4	4	.....	.....	.....	3	.....	1	.....
1910 totals	67	64	131	7	33	26	114	2,612	2,792	2,923	64	8	386	1,050	212	229	974
1909 totals	125	90	215	16	36	41	176	4,823	5,092	5,307	130	20	1,095	1,614	427	341	1,680
1908 totals	55	108	163	11	93	57	184	5,115	5,460	5,623	58	18	816	1,793	399	481	2,058
1907 totals	62	102	164	12	75	57	237	3,868	4,249	4,413	52	21	554	1,489	267	502	1,528
1906 totals	75	83	158	22	72	56	227	4,931	5,308	5,466	54	35	925	1,690	408	532	1,822
1905 totals	87	95	182	25	106	80	221	4,562	4,994	5,176	65	39	744	1,775	474	404	1,675
1904 totals	91	92	183	19	61	61	208	3,637	3,986	4,169	74	25	831	1,268	508	406	1,057
1903 totals	406	60	466	10	75	54	174	3,670	3,983	4,449	363	29	1,309	1,152	397	236	963
Grand totals	968	694	1,662	122	551	432	1,541	33,218	35,864	37,526	860	195	6,660	11,831	3,092	3,131	11,757

sachusetts this year had only about 1/7 of the injuries it had last year; Missouri, New Jersey and New York reduced their injuries to ⅓ and Illinois and Ohio had ½ of their last year's totals. Pennsylvania reduced its total to ⅔ of what it had last year. Of all the states having over 100 injured, only Indiana, Iowa and Wisconsin show larger totals than last year. Pennsylvania continues in the lead with 623 injuries, followed by New York with 327 and Illinois with 285. Note that last year the same three states had respectively 986, 897 and 546 injuries! Altogether there were 2,923 injuries this year, a little more than half of last year's record.

NON-FATAL INJURIES

There were 2,792 non-fatal injuries this year, a little more than half (55 per cent.) of the total reported last year. Only 7 persons were totally blinded this year, but 33 lost one eye each, 26 lost legs, arms or hands and 114 lost one or more fingers. The giant firecracker—which, by the way, has a much shorter fuse than the smaller varieties—holds the first place as a cause of mutilating wounds and is responsible for most of the losses of eyes, hands and fingers. In the awfulness of its destructiveness the giant firecracker is equaled in a few instances only by the explosion of bombs, or of home-made cannon. The fact that the wounds made by giant firecrackers are so lacerated is probably the reason they do not cause more lockjaw. Again, these cases are taken to the physician, while the supposedly insignificant wounds made by blank cartridges are neglected. This year 1,050 injuries including 2 deaths and 2 cases of lockjaw were due to the giant firecracker.

Firearms caused 229 accidents this year including 19 killed and 5 cases of lockjaw. The percentage of deaths from this cause was 10.2. Of the total number thus injured, 78 were struck by

TABLE 7.—TOTAL DEATHS AND ACCIDENTS BY STATES DURING EIGHT YEARS

	1903	1904	1905	1906	1907	1908	1909	1910
Alabama	2	7	1	2	1	1	1	3
Arizona	1	.....	4	5	2	5	3	.....
Arkansas	.....	.....	3	4	.....	5	1	4
California	100	138	142	96	121	136	89	63
Colorado	39	44	26	23	25	13	18	19
Connecticut	162	133	132	169	63	105	86	78
Delaware	1	5	14	8	16	12	13	8
Dist. Columbia	2	10	24	5	12	21	.....	.....
Florida	1	2	2	.....	.....	.....	1	4
Georgia	.....	.....	.....	4	2	4	.....	5
Idaho	4	4	3	3	4	4	2	3
Illinois	366	423	542	598	468	558	546	285
Indiana	160	211	217	250	.....	255	164	167
Iowa	168	137	328	255	231	174	91	141
Kansas	63	88	56	61	64	72	86	50
Kentucky	30	72	17	21	18	33	17	26
Louisiana	.....	2	3	7	8	4	.....	4
Maine	31	32	29	15	11	16	22	7
Maryland	21	22	13	10	23	21	10	8
Massachusetts	637	193	467	329	168	430	430	63
Michigan	144	157	288	193	163	203	177	143
Minnesota	157	102	174	95	95	65	69	64
Mississippi	.....	.....	.....	2	2	1	.....	.....
Missouri	147	84	218	325	299	375	352	112
Montana	5	17	40	3	6	11	9	10
Nebraska	46	63	43	47	58	46	42	36
Nevada	.....	1	2	.....	1	4	.....	1
New Hampshire	37	23	9	29	13	13	23	10
New Jersey	228	204	350	398	402	472	488	167
New Mexico	.....	4	5	1	6	.....	1	3
New York	522	549	566	681	752	647	897	327
North Carolina	.....	.....	1	1	.....	.....	.....	1
North Dakota	10	8	29	11	8	13	4	13
Ohio	443	327	329	490	375	543	323	166
Oklahoma	1	3	7	14	194	9	12	11
Oregon	16	13	9	11	5	9	21	19
Pennsylvania	533	744	721	969	491	987	986	623
Rhode Island	64	30	11	21	39	39	42	19
South Carolina	.....	.....	.....	1	.....	.....	4	.....
South Dakota	4	10	15	5	8	10	9	4
Tennessee	4	1	5	6	4	5	4	10
Texas	2	2	4	11	7	11	4	2
Utah	23	22	25	18	30	12	18	8
Vermont	45	14	10	14	18	19	12	4
Virginia	.....	11	5	8	.....	5	4	.....
Washington	21	25	15	25	23	38	32	37
West Virginia	19	16	34	64	27	29	35	20
Wisconsin	190	215	230	155	150	187	157	171
Wyoming	1	2	8	3	.....	1	1	4
Totals	4,449	4,169	5,176	5,466	4,413	5,623	5,307	2,923

stray bullets from the reckless use of firearms by others and 3 deaths resulted. Toy cannon caused 212 injuries including 3 killed, but this year caused no cases of tetanus.

TOTALS IN CHIEF CITIES

Table 8 shows the number reported killed and injured in our largest cities during each of the past three years. The population figures are from the United States Census Bureau's estimate for 1909. This table is of particular interest since by it the results of the adoption and enforcement of prohibitive or restrictive ordinances can be seen. Sometimes, however, although very small numbers of injuries are reported, more deaths resulted than in other cities having many more injuries. Pittsburg and New York City each reported six deaths, the largest number this year; Chicago and Philadelphia each report 4 deaths; Cincinnati and Milwaukee each report 3; and Wilkes-Barre, Pa., reports 2. Pittsburg had one more death than last year regardless of the fact that the number of injuries was reduced by half. Although Chicago had only half as many injuries as last year, nevertheless there were four deaths this year to none last year. New York had three deaths less than last year and only ⅓ as many injuries were reported. For the first time in four years St. Louis and Boston report no deaths and the returns show greatly reduced casualties. Of non-fatal injuries this year, Philadelphia leads with 405, followed by New

TABLE 8.—NUMBER REPORTED KILLED AND INJURED IN THE LARGER CITIES

City.	Population Census Bureau, est. 1909.	1907		1908		1909		1910	
		Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
New York City	4,450,963	22	422	11	316	.....	559	6	179
Chicago	2,224,491	16	151	12	102	.....	118	4	62
Philadelphia	1,515,756	7	248	6	426	9	508	4	405
St. Louis	686,369	3	189	4	229	4	163	....	44
Boston	622,970	3	59	6	190	5	167	....	35
Baltimore	576,023	.....	5	1	10	....	5	..	6
Pittsburg	558,123	10	88	....	30	5	48	6	26
Cleveland	506,938	3	63	12	93	.....	4	..	1
San Francisco	450,000	.....	.....	.....	11	.....	12	....	9
Buffalo	396,535	.....	18	3	11	.....	33	1	13
Detroit	384,855	2	46	....	10	2	46	1	17
Cincinnati	351,212	2	89	1	112	3	86	3	49
Washington	343,003	....	12	.....	21	.....	.....	.....	.....
Milwaukee	332,495	2	93	.....	70	.....	78	3	112
New Orleans	327,662	.....	8	.....	4	.....	.....	.....	3
Minneapolis	309,378	....	13	.....	10	1	24	.....	20
Newark, N. J.	308,669	1	129	2	81	1	150	1	15
Los Angeles	306,000	.....	35	.....	40	.....	26	.....	.....
Seattle	265,000	1	3	.....	11	3	10	....	7
Jersey City	253,711	.....	31	5	34	1	14	1	44
Oakland	250,000	.....	9	.....	.....	.....	8	.....	9
Indianapolis	241,826	1	31	1	14	1	35	....	24
Louisville	236,688	.....	13	.....	10	1	10	1	13
St. Paul	224,189	.....	20	.....	13	.....	18	..	12
Providence, R. I.	217,065	.....	20	1	21	.....	13	..	10
Rochester, N. Y.	196,793	.....	12	....	10	.....	5	....	10
Kansas City, Mo.	191,685	1	46	....	55	4	67	1	25
Toledo, Ohio	174,059	1	5	....	8	2	3	1	2
Denver, Colo.	156,726	.....	8	.....	13	.....	12	1	6
Columbus, Ohio	155,340	5	36	.....	5	1	19	.....	.....
Memphis, Tenn.	136,363	.....	1	.....	3	.....	4	....	2
Worcester, Mass.	135,906	1	6	2	20	1	42	....	6
Omaha, Neb.	134,972	.....	25	.....	10	1	17	....	17
New Haven, Conn.	127,827	.....	2	.....	.....	.....	15	.....	.....
Scranton, Pa.	126,575	.....	5	1	17	1	29	....	6
St. Joseph, Mo.	125,504	1	23	1	41	1	24	....	11
Syracuse, N. Y.	125,378	.....	20	.....	14	.....	13	....	6
Tacoma, Wash.	125,000	2	4	1	3	.....	3	....	2
Portland, Ore.	119,607	.....	2	.....	3	.....	16	....	13
Paterson, N. J.	116,615	1	29	2	31	1	45	1	14
Atlanta, Ga.	111,825	1	4	.....	3	.....	.....	.....	5
Richmond, Va.	109,461	.....	.....	.....	.....	1	1	.....	.....
Dayton, Ohio	108,668	.....	11	.....	14	.....	4	.....	2
Fall River, Mass.	106,481	.....	.....	.....	12	.....	19	....	1
Nashville, Tenn.	106,476	.....	2	.....	.....	.....	.....	.....	8
Grand Rapids, Mich.	105,909	.....	20	1	30	.....	3	....	17
Hartford, Conn.	103,808	.....	18	.....	18	.....	11	....	14
Cambridge, Mass.	101,872	.....	.....	.....	17	.....	.....	.....	.....
Albany, N. Y.	100,730	1	24	.....	37	.....	31	....	11
Bridgeport, Conn.	99,913	.....	1	.....	27	.....	21	....	4
Reading, Pa.	97,231	.....	17	.....	13	.....	17	1	3
Lowell, Mass.	95,125	.....	23	.....	.....	.....	18	.....	.....
Camden, N. J.	89,305	.....	16	.....	29	4	14	....	6
Wilmington, Del.	88,980	1	14	.....	13	3	9	....	6
Des Moines, Iowa	86,415	1	31	.....	41	.....	13	....	23
Kansas City, Kan.	85,742	1	10	.....	17	.....	33	....	14
Trenton, N. J.	84,180	.....	38	1	17	1	58	.....	.....
New Bedford, Mass.	83,898	.....	.....	.....	3	.....	.....	.....	.....
Lynn, Mass.	83,865	.....	3	.....	11	3	16	....	4
Springfield, Mass.	82,724	.....	21	1	36	1	9	1	2
Troy, N. Y.	77,242	.....	.....	2	18	.....	16	1	8
Lawrence, Mass.	76,042	.....	11	1	.....	5	22	.....	.....
Somerville, Mass.	75,375	.....	.....	.....	.....	.....	1	.....	2
Duluth, Minn.	74,520	.....	13	.....	9	2	10	....	3
Schenectady, N. Y.	73,037	.....	4	.....	20	.....	8	1	13
Savannah, Ga.	72,446	.....	.....	.....	.....	.....	.....	.....	.....
Yonkers, N. Y.	72,200	.....	32	.....	5	.....	8	.....	.....
Norfolk, Va.	71,730	.....	.....	.....	.....	.....	.....	.....	.....
Peoria, Ill.	70,383	.....	8	.....	27	1	22	1	17
Hoboken, N. J.	70,351	.....	1	1	24	.....	7	....	4
Utica, N. Y.	69,458	.....	18	.....	10	.....	5	.....	1
Manchester, N. H.	68,561	.....	3	.....	1	1	5	.....	.....
Elizabeth, N. J.	67,470	.....	43	.....	72	.....	37	....	15
San Antonio, Tex.	67,404	.....	.....	.....	1	.....	.....	.....	.....
Waterbury, Conn.	67,282	2	8	.....	14	.....	5	....	15
Evansville, Ind.	66,948	.....	5	.....	12	.....	6	....	7
Salt Lake City	64,538	.....	15	.....	6	2	14	1	4
Wilkes-Barre, Pa.	64,323	1	.....	3	38	1	15	2	8
Erie, Pa.	63,652	.....	.....	.....	1	.....	4	....	2
Houston, Tex.	63,625	.....	.....	.....	1	.....	1	.....	.....
Harrisburg, Pa.	58,530	.....	23	1	71	.....	22	....	3
Portland, Me.	57,675	1	2	.....	.....	.....	2	.....	.....
Charleston, S. C.	56,573	.....	.....	.....	.....	.....	.....	.....	.....
Totals		94	2,458	83	2,860	80	2,935	43	1,455
Totals elsewhere		70	1,791	80	2,600	135	2,156	88	1,337
Grand totals		164	4,249	163	5,460	215	5,091	131	2,792

York City with 179, Milwaukee with 112, Chicago with 62, Cincinnati with 49, St. Louis and Jersey City each with 44, and Boston with 35. The few cities which showed marked increases were Milwaukee, Jersey City, Grand Rapids, Des Moines and Waterbury, Conn.

RESULTS OF RESTRICTIVE ORDINANCES

Trenton, N. J., adopted a prohibitive ordinance following last year's celebration and as a result presents a clean record this year. One solitary injury is reported this year from Cleveland, which adopted a prohibitory ordinance two years ago. Washington also has a prohibitive ordinance and for two years has had a clear record. Baltimore with a prohibitive ordinance reports only six injuries and no fatalities this year.

These records clearly show that prohibitive ordinances are much more effective than restrictive measures, such as were employed in New York, Chicago and several other cities. Reports from hundreds of smaller cities and towns indicate that this year either prohibitive or restrictive measures were enforced. The agitation for more enlightened methods of celebration has been rapidly spreading and the greatly reduced list of casualties this year is the result. May this movement for the restriction of destructive methods and the bringing in of sense and reason be continued until this blot on the record of our fair land is entirely removed!

WHERE THE RESPONSIBILITY RESTS

The responsibility for the vast majority of Fourth of July injuries clearly rests with city governments, since the employment of death-dealing methods of celebration is subject to their regulation. It is, therefore, up to the city governments to decide whether or not the maiming of thousands, the agonizing deaths from lockjaw and the burning to death of little children by fire from fireworks is to be continued. Prohibitory ordinances are most effective and permanent, as shown by the results in Baltimore, Washington, Cleveland and Trenton; and even restrictive ordinances, if enforced, are quite effective, as shown by the results in New York, Boston, Chicago, Toledo and other cities. But the enforcement of restrictive measures is more difficult and requires more constant vigilance on the part of the police. By the sound, it is difficult to know whether an explosion is due to a firecracker 3 inches long or to one 5 inches long, or whether it is due to some other forbidden form of fireworks, while under a prohibitory ordinance any explosion would be recognized at once as a violation of the law. Again, the smaller firecrackers, which have been considered so harmless, caused the clothing to catch fire in many of the 26 instances this year in which persons, mostly girls and young children, were burned to death. Even the "harmless" sparkler caused one of these deaths, which were far more agonizing than if caused by gunshot wounds.

A NEW PATRIOTISM

Better by far than the negative methods of restricting or prohibiting the use of destructive methods of celebration this year was the more general adoption of positive methods of reform. Our national Independence Day is ceasing to be a day of destruction and a new patriotism has been brought forth. From every section of the country, from city, town and hamlet comes the news that, in place of the senseless din of former years, more truly patriotic methods have been employed. The music of bands, the marching of soldiers, the flying of flags and banners, the children's parade, the witnessing of historic floats, and afterward the picnics, the trips to the parks or the visiting of friends—these methods were employed more than ever before. And the result is very evident: The smallest number of lockjaw cases and other deaths is reported this year; there were fewer destroyed eyes, fewer maimed bodies and an astonishing reduction in the number of injuries. Surely, the new methods have been worth while!

Medical News

ALABAMA

Personal.—Dr. James F. Johnston, a member of the staff of the Cunningham Hospital, Ensley, has been commissioned first lieutenant of the Medical Reserve Corps, U. S. Army, and reported for duty in Washington, September 1.——Prof. F. L. Haley, Hoosick Falls, N. Y., has been made professor of physiologic chemistry and bacteriology in the Medical Department of the University of Alabama, Mobile.

Additions to Faculty.—Dr. Rhett Goode, Mobile, dean of the Medical Department of the state university, has announced the following additions to the faculty for 1910 and 1911: Dr. James F. Harrison, professor of chemistry and materia medica; Dr. M. Toulmin Gaines, associate professor of pathology and histology; Dr. William H. Oates, associate professor of therapeutics; Drs. Tisdale and Ivey, instructors in clinical medicine; and Dr. P. D. McGehee, clinical instructor in genitourinary diseases.

Antituberculosis Work.—As a result of the campaign against tuberculosis in Jefferson county, a camp for the reception of patients suffering from this disease has been opened on Red Mountain with twelve tents. The membership of the association now numbers 355. A farm is to be operated in connection with the camp, in which patients may do light work when their condition permits. Dr. Benjamin L. Wyman, Birmingham, is acting president of the association, and Drs. Russell McW. Cunningham, Ensley, and Robert B. Harkness, Birmingham, are members of the board of directors. After conferring with the governor, Dr. W. H. Sanders, Montgomery, president of the State Health Board, is looking for a suitable site for the proposed state tuberculosis sanatorium, for which $40,000 was appropriated recently by the legislature.

ARIZONA

Personal.—Dr. Adrian B. Perkey, Morenci, sailed for Europe August 25, and will study in Vienna.

Plan for Sanatorium.—The board of supervisors met at Phoenix, August 17, and considered plans for the tuberculosis sanatorium to be constructed by the board, near Phoenix, in conjunction with the Associated Charities. Plans for a hospital were adopted to cost $7,000 and to accommodate 28 patients.

ARKANSAS

Personal.—Dr. Bernard H. Gallagher, Pine Bluff, has been elected president, and Dr. Robert P. Woods, Altheimer, secretary of the Jefferson County Board of Health.

New Regulations at Hot Springs.—A rule has been made by the Department of the Interior providing that a physician who has been deprived of the right to practice medicine on the government reservation for "drumming" or other offense, will be required to pass a written examination conducted by the Federal Registration Board of the reservation before he can be restored to good standing.

CALIFORNIA

Hospital Happenings.—On August 15 the Seaside Hospital Association, San Francisco, paid $1,500 of the $3,000 subscribed for its new hospital site. The new hospital is to cost

$10,000.——The Harbor Emergency Hospital, San Francisco, has moved from its old location on the bulkhead at the foot of Mission Street to the new quarters on Clay Street.——Ground for the new Kings County Hospital at Hanford was broken August 11.

Personal.—Dr. H. B. Graham, who recently returned to Berkeley from Austria, has been appointed assistant professor of hygiene in the University of California.——Dr. John T. Jones, Grass Valley, who has been in Europe for a year and a half under treatment for injuries sustained while swimming at Coronado Beach, has sailed from Liverpool for America.——Dr. Fred P. Clark, superintendent of the Stockton State Hospital, has been reelected for another term.——Dr. Frederick P. Gay, of Harvard Medical School, has been appointed head of the department of pathology of the University of California, vice Dr. Alonzo E. Taylor, resigned.——Dr. Thomas W. Huntington, San Francisco, has been appointed chief surgeon of the Western Pacific Railroad.

COLORADO

Personal.—Dr. Elmer A. Elder has succeeded Dr. Joseph E. Pears, resigned, as city physician of Pueblo.——Dr. A. M. Foster, formerly head of the Eudowood Sanatorium, near Towson, Md., has assumed active charge of Cragmore Sanatorium, near Colorado Springs.

To Better the Health of Pueblo.—A committee has been appointed by the Commerce Club of Pueblo with the object of putting the city on a better sanitary basis. The committee is composed of Drs. Franklin E. Wallace, William H. T. Baker, David W. Collins, Crum Epler and Luke McLean, and plans have already been laid for the inspection of dairies, grocery stores, meat shops and other places where it is likely that unsanitary conditions may be found.

GEORGIA

Higher Entrance Requirements.—It is announced that beginning with the session of 1911-12 the Atlanta School of Medicine will require for admission a four-year high-school education, or the actual equivalent as determined by examination. This requirement is to consist of 14 units as defined by the College Entrance Examining Board. Examinations will be given only by some designated educational authority not interested in the college.

IDAHO

Donates Site for Home.—Dr. Mary E. Johnston, Boise, has donated a block of land at Roosevelt Heights, Boise, as the initial step in the establishment of a home for the old people of the state.

Personal.—At a recent meeting of the State Board of Health Dr. Ralph Falk, Boise, was elected secretary, vice Dr. Jesse L. Conant, Weiser, deceased.——Dr. Glenn E. Shawhan, Boise, has been appointed physician of Ada county, vice Dr. Ralph Falk, resigned.

Infantile Paralysis Epidemic.—The secretary of the State Board of Health has sent out circular letters of inquiry to physicians throughout Idaho asking statistics regarding the alleged prevalence of anterior poliomyelitis in the state. Of the 36 cases reported in Idaho, 7 are said to have occurred in Cottonwood.

ILLINOIS

Personal.—Lieutenant-Colonel Henry Richings, Rockford, surgeon of the Third Brigade, Ill. N. G., has been placed on the retired list.——Dr. Anthony G. Wittman, Blue Island, has passed the civil service examination for assistant physician in the state charitable institutions.

Chicago

Personal.—Dr. William J. Butler has returned from Europe.——Dr. Thomas M. Leahy has passed the state civil service examination for assistant physician in the state charitable institutions.

Sputum Examination.—Improved methods of sputum examination have been adopted recently in the Municipal Laboratory. Sputum shakers of the Boston Board of Health type have been installed and the use of alkaline sodium hypochlorite as digestant has been introduced, resulting in increase in the delicacy of the test and augmentation of the capacity of the laboratory. During the four months prior to the installation, tubercular bacilli were found in 17.5 per cent. of the 1,017 specimens examined, and in the three months following the installation, 27.1 per cent. of tubercular bacilli were found in 506 specimens of sputum.

INDIANA

Transferring Insane Patients.—During the last week five trains transferred 500 insane patients from the Central Insane Hospital, Indianapolis, to the Southeastern Insane Hospital, Madison. This institution comprises a group of thirty-two buildings, overlooking the Ohio River, recently constructed at a cost of $1,500,000. Dr. Edward P. Busse, Evansville, has been selected as superintendent.

Bureau of Health Speakers.—The State Board of Health is about to establish a bureau of speakers on health. These speakers will accompany the tuberculosis exhibits which are to be sent to schoolhouses, and will speak to the schoolchildren on how to live and how to prevent disease. The lectures will be illustrated and photographs of correct living and sleeping apartments and other methods of sanitation will be shown.

Fort Benjamin Harrison.—During September, 15,000 soldiers of the army militia from Illinois, Wisconsin, Michigan, Ohio, Kentucky and Indiana will assemble at Fort Benjamin Harrison, near Indianapolis, for a tour of inspection and duty. The chief medical officer is Colonel L. Merwin Maus, Medical Corps, U. S. Army, chief surgeon of the Department of the Lakes, Chicago, who has announced that prevention of disease by relentless warfare on the housefly will be the chief work of his department.

Health Car Caravan.—A health car caravan is being organized in Indianapolis by the father of a tuberculous child. The caravans will contain twelve vans and two automobiles with accommodation for from forty to fifty patients suffering from tuberculosis. Nurses, cooks, and a physician are to accompany the caravan. The maximum of out-of-door life will be led. For amusement, fishing, hunting, sightseeing and visiting famous battlefields have been planned. The route includes Kentucky, Tennessee, Virginia, the Carolinas, Georgia, Alabama and Mississippi. The caravan will return to Indianapolis in the spring of 1911.

Violation of Pure Food Law.—During the present term of the Federal Court for the District of Indiana, ten individuals or firms are said to have been fined for violation of the pure food law. Among these were The Wells Medicine Company, Lafayette, for selling "Wells' Dime Headache Cure;" G. R. Summers, South Bend, for misbranding "Mrs. Summers' Harmless Headache Remedy;" "The Sure Pop Company," Terre Haute, for misbranding in the label that "Sure Pop cures headache and neuralgia." The case against the Evansville Bottling works is still pending. This company is said to use cocain in "Shelburn's Cola." The common violations of the law in the state are misbranding of the weights of cheese, adulteration of vinegar, cottonseed meal, and whisky, and false labeling in shipments of apricots.

IOWA

Personal.—Dr. Harry J. James, formerly superintendent of the State Sanatorium, Oakdale, has been appointed superintendent of the South Dakota State Sanatorium.——Dr. Herbert S. Miner, superintendent of the State Hospital for Inebriates, Knoxville, has resigned, to take effect in November.——Dr. Charles W. Carr, Denison, has returned from Europe.

Woman's Infirmary Opened.—The new Woman's Infirmary in connection with the State Hospital for the Insane, Mount Pleasant, was recently opened to receive patients. The building has been erected at a cost of $67,500 and has a thoroughly modern equipment, including hydrotherapeutic department, installed at a cost of $3,500. The building will accommodate 70 patients.

KENTUCKY

Attempted Assassination.—Dr. James U. Ridley, Robard, was shot by a negro, August 24. No cause has been advanced for the attempted assassination.

Personal.—Dr. Henry E. Tuley and family have returned from a ten weeks' trip abroad.——During the illness of health officer Dr. William V. Neel, of Henderson, his duties as health officer have been assumed by Dr. J. W. Stone, president of the board.

Tuberculin Test.—The State Board of Health will probably hold an early meeting to amend its ruling as to the use of the tuberculin test in all dairy cattle furnishing milk for sale in Kentucky, to include cows furnishing milk for manufacture of butter. The board has received an opinion from its attorney

in which it is stated that the board has full power to supplement its order of a year ago to include milk used for all purposes.

Personal.—Dr. Ernest B. Bradley, city bacteriologist of Lexington has been elected health officer of Fayette county. ——Dr. Henry B. Ritter has retired from the Medical Department of the University of Louisville and has discontinued the practice of obstetrics.——Dr. Thomas C. Evans has abandoned the practice of his specialty, the diseases of the eye, ear, nose and throat, and is devoting his entire attention to his work as dean of the Medical Department of the University of Louisville.

Merger of Colleges.—The Southwestern Homeopathic Medical College and Hospital of Louisville has been merged with the Hahnemann Medical College of Chicago. The Southwestern Homeopathic College was established in 1892 and the present faculty, the majority of whom are graduates of the institution, will make occasional trips to Chicago to lecture in the Hahnemann College. The college has not been self-supporting recently and its annual deficit has been made up by friends and patrons of the institution. The intern staff at the City Hospital will now be made up exclusively of regular graduates of the University of Louisville Medical Department. Every fifth patient admitted to the institution heretofore has been under the homeopathic service.

MARYLAND

Baltimore

Osler in Baltimore.—Dr. William Osler, regius professor of medicine in Oxford University, England, visited Baltimore August 21, as the guest of Dr. Thomas B. Futcher. He returns to England, September 6.

Personal.—Dr. H. Quigg Fletcher, of Johns Hopkins Hospital, has been appointed house physician at the Union Protestant infirmary.——Dr. G. Milton Linthicum, who has been ill in the Maryland General Hospital for several weeks, has gone to Atlantic City to recuperate.

Medical Illustrator Dies.—Mr. August Horn, for many years connected with the gynecologic department of Johns Hopkins Hospital as an illustrator of medical subjects, died in Nauheim, Germany, August 19, aged 41. His excellent work has appeared in THE JOURNAL many times.

MICHIGAN

School Medical Inspectors in Saginaw.—The committee of the board of education which has charge of medical inspection of public schools has decided that four physicians shall be employed, each to have three schools under his jurisdiction which must be visited at least once a week.

Personal.—Dr. Frank W. Smithies, Ann Arbor, has been offered a professorship and the directorship of University Hospital in the Iowa State University.——Dr. G. Carl Huber, Ann Arbor, has been made research professor of embryology in the Wistar Institute, Philadelphia.——Dr. Robert M. Gubbins, Ceresco, fell from the roof of his store, August 23, dislocating a wrist and fracturing the left ulna.

MINNESOTA

Personal.—Dr. Nathan C. Bulkley, formerly of Superior, Wis., has been appointed health commissioner and school inspector of Eveleth.——Dr. Clyde E. Prudden, Duluth, has been placed in charge of the school inspection work of Hibbing.

The New Duluth Dispensary.—Dr. William M. Hart, secretary of the St. Louis County Sanatorium, has been placed in charge of the work connected with the new free dispensary. Many patients suffering from tuberculosis have already appeared for examination and treatment.

MISSISSIPPI

Bulletin on Tuberculosis.—The Mississippi State Board of Health has issued a bulletin relative to the war being waged on tuberculosis, in which it gives information regarding the causation of the disease and urges the cooperation of all citizens in preventing its spread.

Personal.—Dr. Francis M. Sheppard, Richton, has been appointed railroad commissioner of Mississippi.——Dr. Harold B. Wood, of the University of Pennsylvania, has been appointed bacteriologist and director of the laboratory of the Mississippi State Board of Health.——Drs. Walter H. Rowan, Wiggins, and James B. Bullitt, University, have been appointed field agents and special inspectors of hookworm and tuberculosis. ——Dr. Roland W. Hall, Clinton, has been appointed by the State Board of Health local sanitary agent for the investigation and eradication of hookworm.

NEW YORK

Off for Europe.—Dr. and Mrs. George A. Chapman, Glens Falls; Dr. and Mrs. Henry A. Gribbon, Poughkeepsie, and Dr. John H. B. Denton, Freeport, have sailed for Europe.

Hostlers Contract Glanders.—Two hostlers are very ill with glanders at Poughkeepsie. It is believed that they contracted the disease from infected horses, twenty of which were shot. A dozen more are isolated and under inspection.

New York City

Lutheran Hospital Plan.—The Lutherans of New York are working for the erection of a hospital to be used especially for the Lutheran poor. The Lutheran Inner Mission Society has organized a district medical service, composed of 15 medical men located in the fifteen districts into which Manhattan and the Bronx have been divided for this purpose. The physicians respond to calls sent by ministers or church workers to treat cases in Lutheran families who are unable to pay for medical and surgical aid.

Memorial Fund for the Academy of Medicine.—The will of Mrs. Margaret E. Gray provides a bequest of $50,000 to the New York Academy of Medicine to establish the Landon Carter Gray Memorial Fund in memory of her husband, who died about ten years ago. She directs that the income be used to purchase books from time to time and that all such books have inserted a book plate which she has designed for this purpose. The will also leaves $5,000 to Dr. William B. Pritchard and $3,000 to Dr. John J. McPhee.

Congestion in Manhattan.—Stanley D. Asheed, head of the Department of Civic Design of Liverpool, England, in a recent address before the Commission of Congested Population made the statement that the congestion in Manhattan exceeds by two-thirds that of any European city. He suggested the removal of all factories from the restricted areas and the development of more lines of communication, as measures that will attract people from the congested districts, and strongly urged the necessity for making greater efforts towards decentralization.

Work of Crocker Cancer Research Fund to Begin.—The George Crocker Cancer Research Fund of Columbia University has undertaken to make examination of suspected tissues provided that the physician will furnish the information needed for its statistical investigation of the etiology of cancer. It is hoped that the profession will avail itself of this offer as the early diagnosis of cancer is of inestimable value to the patient and to the profession—and as, at the same time, the statistics thus obtained will be of great value to those engeged in the research work. The Department of Health has agreed to co-operate with the Department of Pathology of Columbia University, and by the middle of October each collection station of the board will be supplied with jars to be used for specimens of tissue suspected to be cancerous.

Milk Committee Plans Work.—Following the announcement that after this season Nathan Straus will discontinue the pasteurized milk stations in this country owing to the persistent attacks of a New York newspaper on milk pasteurization ventures, the New York Milk Committee is seeking funds for the purpose of undertaking an experiment to determine the nutritive value of raw and pasteurized milk. It asks for $3,000 before the first of October for this work. This committee in its infant milk depots fed a large number of babies during the period of 1908-1909 on raw and pasteurized milk, the milk in each instance coming from the same dairy. They wish to supplement this investigation by a further intensive study of babies under conditions which they can more nearly control and by chemical laboratory study of the nutritive properties of heated milk. Dr. H. S. Sherman, professor of nutrition at Columbia University, has placed at the disposal of the committee the laboratory equipment of that department. Dr. Godfrey R. Pisek will supervise the work and the laboratories of Dr. Charles E. North, chairman of the milk committee's committee on sanitation, bacteriology, and public health have been offered for the bacteriologic and chemical work.

Osteopaths Again Defeated.—In the case of Dr. Charles F. Bandle who applied for a mandamus to compel the Board of Health to grant a burial permit on a death certificate pre-

sented by him, the supreme court has refused the mandamus. The decision was accompanied by the following memorandum:

While the state has wisely allowed the practice of osteopathy, it does not follow that it thereby holds out one, without any practice in surgery or experience in prescribing drugs, as fully qualified to certify the cause of death. Indeed it is not certain that a board of health would be compelled to take the certificate of death of all licensed physicians in the event of an epidemic or the spread of some new and mysterious disease.

Granted that the theoretical education of the osteopath is of a standard equal to that of a doctor of medicine, after he enters on his profession his practice is restricted, so that it does not appear that he can make the tests by examination of blood and tissues by which alone many diseases can be certainly detected.

The sanitary code is discriminatory, but the discrimination is not personal and arbitrary. It is based on a limitation which the osteopath may be said to make for himself, and deprives him of no rights which he ought to exercise consistent with the public safety.

Bequest to Hospital.—By the will of Mrs. Harriet Coles the Presbyterian Hospital benefits to the extent of $7,500, which is to be used for founding a bed in perpetuity, the rector of St. Paul's Episcopal Church at Glen Cove having the right to nominate the use to which the bed shall be put from time to time.

Buffalo

Personal.—Drs. Harry M. Weed, Herriot C. Rooth, John C. Thompson and wife, and Otto S. McKee have gone abroad.——Dr. Edwin A. Bowerman has been appointed lecturer on hygiene in the University of Buffalo Medical Department.——Dr. Matthew D. Mann, emeritus professor of obstetrics and gynecology, will continue his duties as dean of the faculty.

Anterior Poliomyelitis.—The Department of Health has sent out circulars to all physicians stating that with the increase in the number of cases of anterior poliomyelitis or infantile paralysis, the department deems it wise to take precautions to prevent its spread. Immediate report of all suspicious cases must therefore be made to the department from now on. Although such houses will not for the present be placarded, quarantine must be observed.

OHIO

Campaign Against Blindness.—The State Board of Health, on August 22, inaugurated an active campaign against ophthalmia neonatorum. A letter with a sterilized dropper and a quantity of silver solution was sent by the board to every registered physician of the state, with instructions for use.

Personal.—Dr. Charles A. L. Reed, Cincinnati, sailed for Europe, August 18, to attend the International Congress on Gynecology and Obstetrics.——Dr. Dudley P. Allen, Cleveland, for many years visiting surgeon at Lakeside Hospital, has resigned from the staff, and from his chair in the Medical Department of Western Reserve University, has given his library to the Cleveland Medical Library, disposed of his instruments and appliances, retired from practice, and with Mrs. Allen, sailed for Europe, August 9.——Dr. Charles T. Swaney, Niles, has announced that he is about to give up practice, and will take charge of a department of the Massillon Rolling Mill Company.——Dr. Benjamin C. Bernard has been appointed a member of the Alliance Board of Health.——Dr. James Donnelly, Toledo, is reported to be critically ill with typhoid fever at St. Vincent's Hospital.——Dr. Samuel C. Nieman, senior-assistant surgeon at the National Military Home, near Dayton, has resigned, and will practice in Cincinnati.

OREGON

Personal.—Dr. Max F. Clausius, physician of the United States Indian Service at Siletz, is taking a vacation trip through Alaska and British Columbia.——Dr. Charles G. Sabin has been appointed city bacteriologist of Portland, vice Dr. Ralph C. Matson, resigned.

State Society to Meet.—The thirty-sixth annual meeting of the Oregon State Medical Association will be held in Portland, September, 7, 8, 9, under the presidency of Dr. Edward A. Pierce, Portland. At the public meeting addresses will be delivered by Dr. Walter T. Williamson, Portland, on "The Value of Exercise and Rest to the Public Health;" by Dr. Charles J. Smith, Pendleton, on "School Hygiene;" by Dr. Andrew C. Smith, Portland, on "The Value of Pure Food," and by Dr. Calvin S. White, Portland, on "The Relation of Pure Water to Public Health."

Sanatorium Soon to be Opened.—It is announced that the State Tuberculosis Sanatorium, near Salem, will be opened the first week in September, under the charge of Dr. Harvey J. Clements, superintendent and medical director. The present capacity of the sanatorium is 50 patients, which will be apportioned to the various counties in their ratio to population. The sanatorium is located on the west slope of the hill 5 miles southeast of Salem, protected from north and east winds, at an altitude of 400 feet above the sea. The brick building on the site formerly occupied by the Mute School will be used as headquarters and modern cottages and ideal sleeping porches have been constructed.

PENNSYLVANIA

Stamp Sale to Benefit Hospital.—The directors of the Jewish Sanatorium for Consumptives, Eaglesville, expect to sell one million stamps at the time of the Jewish New Year. These will be sent to stores, lodges, societies and individuals, and their sale will assist the movement to erect a children's pavilion.

Milk Adulterators Arrested.—Embalming fluid, having formaldehyde as one of its chief ingredients, has been found by the agents of the State Dairy and Food Commission in milk sold to the trade in Allegheny County. Informations have been laid against 17 dealers charged with adulterating milk and cream. These men have been arrested and await hearing.

Personal.—Dr. Kerwin W. Kinard, Lancaster, has been commissioned as a lieutenant in the medical corps of the United States Army.——Dr. George D. Nutt has purchased the Bishop Darlington property in Williamsport, and the building on the property will be remodeled and a hospital established. Other local surgeons are associated with Dr. Nutt in this enterprise.

Philadelphia

Cornerstone to be Laid.—The cornerstone of the new building, known as Bradley Hall, to be erected on the grounds of the Methodist Hospital, will be laid with formal ceremonies on September 10. The structure, planned to harmonize architecturally with the rest of the hospital buildings, will contain modern kitchens, refrigerating plant, dining rooms, etc., on the first floor and suites for superintendent and chief resident, rooms for residents and class rooms on the three upper stories.

Personal.—Drs. William W. Babcock, John G. Clark and John Sibbald have returned from Europe.——Dr. Edward Krumbhaar, intern at the Pennsylvania Hospital, is seriously ill with typhoid fever at that institution.——Dr. Algernon B. Jackson has resigned as assistant surgeon to the Polyclinic Hospital to take the position as surgeon-in-chief to Mercy Hospital, an institution conducted for the indigent sick of the colored race.——Dr. James Wallace, formerly chief of the eye department of the hospital of the University of Pennsylvania, left his home on July 31, and has not been heard from since.

Inspectors Seize Goods.—Chief Inspector Jenkins, of the local U. S. Pure Food and Drug Department, ordered on August 23 the seizure of 1,500 pounds of "frou-frou cakes" manufactured by a company of Amsterdam, Holland, and alleged to contain boric acid. The seizure was made at Pennsylvania Railroad Pier 10, where the goods were awaiting delivery to a jobbing house. The inspectors also ordered the seizure of 114 gallons of crushed pineapples at a warehouse at Front and Lombard Streets. The cans, which are said to have contained filthy and decomposed vegetable substance, were shipped in that condition from Hawaii by the Pearl City Fruit Co. At an ice cream factory on South Swanson Street, 19 cases, containing 1,100 pounds of crushed pineapple, were seized. These were shipped by the Pearl City Fruit Co. and the Pineapple City Fruit Co., of Hawaii.

VIRGINIA

Hospital News.—Dr. J. Allison Hodges, Richmond, has purchased a tract of seventeen acres at Westhampton whereon to establish an annex for the Hygiea Hospital for convalescent and rest-cure patients.——Work has begun on the annex of the Stonewall Jackson Memorial Hospital, Lexington.

New Medical Association.—The Shenandoah Valley Medical Association with a membership including every county of the Seventh Congressional District, was organized August 10, at Winchester, with Dr. Durus D. Carter, Woodstock, president; a vice-president from every county of the district, and Dr. Walter Cox, Winchester, secretary-treasurer.

Free Treatment of Hydrophobia.—The State Health Department has made arrangement whereby persons exposed to rabies and not in a position to pay for treatment at a reg-

ular Pasteur institute, will be treated free of cost. Dr. Ennion G. Williams, state health commissioner, has secured a sufficient supply of serum from the Public Health and Marine-Hospital Service to meet the demand.

Personal.—Dr. Edwin M. Sneed, Garrisonville, has been elected secretary, and Drs. Elliot T. Jett, Fairmouth, and William H. H. Tate, Tackett's Mills, have been appointed members of the board of health of Stafford County.——Dr. Paulus A. Irving, Richmond, announces that he will give up practice and move to Prince Edward County on account of the ill health of members of his family.——Dr. George H. Reese, Franklin County, has been appointed a member of the staff of the Central State Hospital, Petersburg.

WISCONSIN

Bubbler Succeeds Fountain.—In accordance with the state law prohibiting public drinking cups in public, private, and parochial schools and other educational establishments, the board of education of Superior is said to have ordered sanitary drinking fountains to be installed in the public schools of the city.

Society Meeting.—The annual meeting of the Southeastern Wisconsin Physicians' Association was held in Racine, August 17, with about one hundred in attendance. Elkhorn was selected as the next place of meeting. Dr. Edward Kinne of that city was elected president, and Dr. Milton V. DeWire, Sharon, secretary-treasurer.

Increase in Faculty.—Marquette Medical College has made the following additions to its staff: department of internal medicine, Drs. Robert Brown and William H. Washburn; department of dermatology, Dr. Robert G. Washburn; department of obstetrics, Dr. Gustave A. Hipke, and department of ophthalmology, Dr. James A. Bach.

Anti-Spit Bullets.—The Wisconsin Antituberculosis Association has provided ammunition for use in its war against expectoration in public places. This ammunition is known as an "anti-spit bullet" and consists of a little slip, one side of which contains an appeal to help eradicate consumption from Wisconsin, and the other side a warning from the health officer regarding spitting in public places, its dangers and penalties.

Work of State Laboratory.—During the past year the State Hygienic Laboratory at the State University, Madison, has examined 804 specimens for diphtheria; 1,048 specimens of sputum for tuberculosis; has made 406 water tests; the Widal test in 497 cases, and 407 miscellaneous examinations for anthrax, glanders, blood, and tuberculosis, and 146 examinations for rabies, and has given the pasteur treatment to 89 individuals.

GENERAL NEWS

Cotton-Seed Oil and Butter.—According to the *Daily Consular Trade Reports* Egypt produces annually about 40,000 barrels of cotton-seed oil, most of which is exported to England or used at home in making soap. The natives, however, have been educated to substitute cotton-seed oil for olive oil and they are large consumers, and 8,000 to 12,000 barrels of the better grades are annually imported from England and the United States. These grades are used exclusively for mixing with olive oil, and it is said that these mixtures are sold as pure olive oil. In Egypt considerable olive oil is also used in making a native butter similar to the Indian product called ghee. This is made by boiling together for a long time cotton-seed oil, mutton tallow, real butter and perhaps one or two other ingredients. It is used largely by the natives instead of butter, and its preserving qualities are remarkable. It is palatable, wholesome and much cheaper than butter.

Public Health Association Meeting.—The thirty-eighth annual meeting of the American Public Health Association, whose membership includes United States, Canada, Mexico and Cuba, will be held in Milwaukee, September 5-9, under the presidency of Dr. Charles O. Probst, Columbus. The meetings will be held in the Milwaukee Auditorium, and the headquarters will be at the Hotel Pfister. The general topics for discussion are "The Relation of the University to Public Health Work," "Methods of Handling State Health Work," "The Inter-Relation of National Organizations Working in the Interests of Health," "Section Reports for General Meeting," "The Present Organization and Work for the Protection of Health in the Four Countries Represented in the Association," "Sanitary Engineering Questions," "The Prevention of Mental Defects and Mental Diseases," "The Relation of Unnecessary Noises to Health," and "The Necessity for Terminal Disinfection and Quarantine."

LONDON LETTER

(From Our Regular Correspondent)

LONDON, Aug. 20, 1910.

Lowest Birth-Rate and Death-Rate on Record

The decline of the birth-rate is so continuous that many times the "lowest on record" has been reported in THE JOURNAL, and this must be done once more. According to the quarterly return the population of the United Kingdom in the middle of 1910 is estimated at 46,469,534, of whom 36,169,150 live in England and Wales. In these countries the birth-rate is in the proportion of 26 per 1,000 annually. This is 2.1 below the mean birth-rate of the 10 preceding second quarters and is the lowest recorded since the establishment of civil registration. The death-rate was in the proportion of 12.8 annually per 1,000. This is 2.3 below the mean rate for the last 10 years and is also the lowest on record. Infantile mortality measured by the proportion of deaths under one year to registered births was 91 per 1,000. This is 19 below the average of the ten preceding years and again the lowest on record. The causes of these declining figures have been fully discussed in previous letters.

Exposure of a Quack

One of the worst and most heartless features of quackery is the exploitation of such diseases as tuberculosis and cancer, which are unamenable to drugs. In Great Britain, it is but seldom that the law takes any notice of the most fraudulent promises of cure. Indeed, the government, by levying a stamp duty on all secret remedies, has made itself to a certain extent *particeps criminis*. The following case is happily an exception to the usual immunity of the quack: C. H. Stevens, of Wimbledon, who described himself as "an unregistered lung specialist," was sued by a woman for $50, a sum which he promised in his advertisements to any patient whom he did not cure of consumption. The woman's husband was treated by him and died of pulmonary tuberculosis. Stevens denied any contract to pay $50 in case of failure and said that the advertisements offering this sum did not appear until after the man's death. After evidence showing that he carried on an extensive business at Wimbledon, and had "Consumption and Lung Specialist" on a brass plate and that he offered the widow $5 to withdraw the case he was closely pressed by the judge as to the composition of his "medicine" and its curative merits. After heated protests and much hesitation he said that he studied the curing of consumption under Dr. Stuart, of Somerset Hospital, Cape Town. Fifteen years ago, by accident, he came across a native remedy at Maseru, Basutoland. A native "doctor" showed him the plants from which it was made. Under pressure he declared that he still imported these Basuto plants into Wimbledon, but he could not say when the last consignment arrived. The judge suggested that the railway books could be consulted. Stevens said that he had been making the $50 offer since last September, but had not yet paid it for a case of failure. The reason was that he had cured every patient except one. In giving judgment for $50 in favor of the widow the judge said that the case was one of a class which was of the gravest importance to the public. Quack remedies were constantly put forward by imposters to play on the fears and hopes of despairing sufferers. In this case, there had been intentioned and well-considered fraud. It was a scandalous thing that poor people should be imposed on by a quack preparation of not the slightest use. He ordered the letters and documents in the case to be impounded. This is done with a view to their consideration by the public prosecutor. In the case of another quack preparation for consumption which was taken by a boy up to the time of his death a coroner made similar severe remarks and suggested a criminal prosecution (reported in THE JOURNAL) but none followed. The government does not appear to be alive to the criminal nature of these frauds and at present all that can be hoped is that they will be made amenable to the civil law.

Blind Masseurs for Patients Suffering from Beriberi

At the Seamen's Hospital, Greenwich, Mr. J. Canlie has introduced massage with Swedish movements for the treatment of beriberi. Following the example of the Japanese, the massage is performed by blind operators whose highly developed sense of touch is of great value in handling delicate patients. So far, the treatment has proved successful in restoring the energy of the atrophied muscles. Two Chinamen

are under treatment who could not put a foot to the ground. After two treatments by massage they began to gain strength and, a week after treatment was instituted, could move about the ward with comparative freedom.

The Milk Supply of London

In his annual report, Dr. Collingridge, health officer for the City of London, states that the inquiry into the character of the milk arriving in London has gone on since 1902. Of 32 samples examined bacteriologically 14 were fairly clean and pure, 14 unclean, and 4 tuberculous. This was the largest proportion of tuberculous milk found since the beginning of the inquiry. In 3 of the farms whence this milk came the cows were found suffering from tuberculosis of the udder or generalized pulmonary tuberculosis. A large proportion of the samples of milk—90 per cent.—contained dirt. Few precautions were taken to prevent contamination of the milk by dirt and other impurities. This can never be entirely obviated while the old, badly designed churns are in use, but many firms are now adopting an improved pattern designed for the exclusion of aerial and other contamination. From other returns it is evident that an enormous quantity of tuberculous milk is distributed throughout the country and a still larger proportion is contaminated with other pathogenic organisms. Owing to neglect of elementary precautions at dairy farms, supplies more often than not are contaminated by the cows. The recent commission on tuberculosis has shown that a considerable amount of disease, especially in infants, is due to tuberculous milk.

Florence Nightingale

On August 13, Florence Nightingale, the pioneer of scientific nursing and one of the heroines of British history, died in her ninety-first year. She was the daughter of a country gentleman of considerable wealth. Even when a child she showed extremely strong sympathies, quick apprehension and excellent judgment, and at the same time was the consoler and benefactress of all the villagers on her father's estate. She was carefully educated in classics, mathematics, and modern languages. She visited the hospitals in London, Dublin, and Edinburgh, and many country hospitals, as well as naval and military ones. She studied nursing on the continent at Paris under the Soeurs de Charité and at the Institute of Protestant Deaconesses at Kaiserwerth on the Rhine. On returning to England, she was appealed to on behalf of the Home for Sick Governesses, in London, which was languishing for want of support as well as management. She took over its control and devoted to it time, energy, and fortune, and re-established it on a sound basis. Thus unconsciously she spent 10 years in preparing for the great event of her life. When in 1854 the battle of Alma was fought in the Crimea, the reports of the condition of the sick and wounded sent a feeling of horror throughout England. The commonest accessories of a hospital were wanting; the sick had to be attended by the sick. Miss Nightingale wrote to the Secretary of War offering to go out and at the same time her letter was crossed by one from him asking her to go "as the only person in England capable of organizing and superintending a scheme for nursing the wounded soldiers." Within a week she had selected from hundreds of offers received from all parts of the country a staff of 38 nurses, including 10 Anglican sisters and 10 Roman Catholic Sisters of Mercy. On arrival, they found at Scutari 2 hospitals containing 3,000 men under appalling conditions. Neglect, mismanagement and disease rendered the scene one of unparalleled hideousness. The wounded lay on beds placed on the pavement and were bereft of all comforts. There was a scarcity alike of food and medical aid; fever and cholera were rampant. Even the slightly wounded who should have recovered under proper treatment were dying from lack of proper nourishment. Miss Nightingale at once set to work to evolve order out of chaos. Within 10 days she had an impromptu kitchen fitted up and a house near the hospital converted into a laundry, which was sorely needed. To the sick and wounded she was indeed a ministering angel and her services excited unbounded devotion. When the medical officers had retired for the night she made her solitary rounds alone among the sick and dying with a little lamp. As her fragile figure passed by the soldiers' faces softened with gratitude. In spite of delicate health she was known to stand 20 hours on the arrival of fresh detachments of wounded, apportioning quarters, distributing stores, and directing her staff. During the first 7 months of her stay in the Crimea the mortality was 60 per cent. per annum from disease alone, but later this was much reduced. After the war a fund was established as a national commemoration for her services and yielded an income of $225,000. It was devoted to setting up a training school for nurses at St. Thomas' Hospital and to the maintenance and instruction of midwifery nurses at King's College Hospital. But for herself she would have neither public testimonial nor public welcome. Her fame was on every lip and her name a household word among the peoples of the world, but her life ever after was little better than that of a recluse and confirmed invalid. Though physically weak, her mental strength was great and she remained devoted to the cause of nursing. She was the general adviser on nursing organization not only of her own but of foreign governments and was consulted by ministers and generals at the outbreak of all our wars, and expounded important schemes of sanitary and other reforms. She was the means of inspiring more humane and more efficient treatment of the wounded in the American Civil War and in the Franco-German War. The nursing school at St. Thomas' Hospital proved very successful and led to the establishment of the numerous schools which now exist throughout the country. She wrote much and well on nursing. Her book "Notes on Nursing" was so clear and practical that 100,000 copies were sold.

PARIS LETTER

(*From Our Regular Correspondent*)

PARIS, Aug. 19, 1910.

Twentieth Congress of Alienists and Neurologists of France and French-Speaking Countries

The above-named congress was held in Brussels, August 1 to 7. Three questions were discussed: (1) sleeping-sickness; (2) cutaneous lesions in mental and nervous affections, and (3) alcoholism and criminality.

SLEEPING-SICKNESS

Dr. Van Campenhout, professor at the Brussels school of tropical medicine, read a paper on this subject, emphasizing the rôle of the *Glossina palpalis* as an indispensable factor in the propagation of the disease. Transmission by sexual relations conceded by Koch, is impossible. In America, the trypanosome has never been transmitted to American-born women. The numerous Europeans who have returned infected with trypanosomiasis have never caused a single European case of sleeping-sickness.

The diagnosis of sleeping-sickness is easy at the second and the third stages, but not at the first. As Dr. Granjux said in the course of the discussion, it is most important that the diagnosis should be made early, not only because of the greater chances of cure, but also because, in proportion as sleeping-sickness is understood better and recognized earlier, psychic troubles are more and more frequently found present at the outset, constituting, Granjux believes, a "medicolegal" period, during which the patient is liable to various errors of judgment which may involve serious consequences. This being the case, every individual who has sojourned in a region infested by the tsetse fly and who presents symptoms analogous to those of general paralysis should be examined for the trypanosome, whether or not he happens to be syphilitic.

ALCOHOLISM AND CRIMINALITY

This question was the subject of a paper by Dr. A. Ley, head physician at the sanatorium of Fort Jaco, Uccle, and Dr. René Charpentier, head of the clinic of mental diseases at the Paris college of medicine, who first cited numerous statistics showing the influence alcoholism has over criminality.

The statistics of the Ste. Anne Asylum at Paris are particularly instructive. Out of 885 offenses and crimes for which 801 patients were confined in this establishment from 1905 to 1909 inclusive, 370, or 41.8 per cent., were attributable to various forms of alcoholism. In Scotland and Ireland, the number of arrests for inebriety have diminished with the diminution in the number of hours that the public-houses are allowed to remain open; and Sunday criminality has diminished markedly since the complete closing of places for the sale of alcoholic drinks has been made compulsory on that day.

The present laws of Belgium and France on the subject of criminal inebriety, the essayist remarked, are inefficacious and insufficiently enforced. When an offense or crime due to alcohol is committed, the accused is subjected to

medicolegal examination and adjudged either irresponsible or semiresponsible; in the first case he is put in confinement; in the second there is a diminution of the penalty. In either case, the results are bad, both legally and medically. Legally, the penalty is not sufficiently exemplary; medically, the period of the moral treatment of the criminal is too limited. Special establishments are necessary in which criminal inebriates may be judicially confined. Such institutions exist in many countries and are provided for by the new bill which has passed the French Chamber of Deputies. It was in Switzerland, where there are now twelve such establishments, that asylums for inebriates were first founded. Great Britain, the United States, New South Wales and New Zealand have recognized the uselessness of the temporary confinement of delinquent inebriates in prisons, and have founded special asylums (reformatories) for such criminals, discharge from which is granted only on a solemn promise of total abstinence. Thirty to 50 per cent. of cures are recorded. All those who have had any considerable experience with asylums for inebriates agree in saying that only a course of total abstinence, lasting from six months to two years or more, is capable of effecting cures. The work-cure ought to be methodically applied. Allowing inebriates in asylums to become inactive or lazy should be avoided by all means. The physicians and all the members of the staff of an asylum for inebriates should be total abstainers, for mere temperance does not afford a proper example.

In reviewing the measures of social prophylaxis, Drs. Ley and Charpentier emphasize particularly the rôle of local option, showing how, in the United States, many of the southern states have been able to attain prohibition without undue friction by local option. By examples from the United States, the essayists show that criminality waxes with the sale of alcoholic drinks, and wanes with its suppression. Thus in New Hampshire a period of license following a period of prohibition gave the following figures for the increase in the numbers of those committed to penal institutions:

1902 (last year of non-license)	473
1903 (first year of license)	838
1904 (second year of license)	1,337
1905 (third year of license)	1,637
1906 (fourth year of license)	2,181

Drs. Ley and Charpentier concluded that the broadest and most fertile field of experience for social measures against alcoholism is at present found in the United States of America, where all systems are put in practice: monopoly, high license, restriction of the number of saloons, closing on certain days, concentration in one quarter of the city, local option and prohibition. There is, moreover, a struggle going on there between the saloon interests, which wield a considerable power, and the prohibition party, which is carrying on an enthusiastic and active propaganda.

Louis Farabeuf

Dr. Louis Hubert Farabeuf, former professor of anatomy at the Paris college of medicine and member of the Académie de Médecine, has just died, aged 69. Appointed head demonstrator in anatomy at the Paris college of medicine in 1878, he became, nine years later, professor of anatomy and occupied this chair until 1902, when he retired and was replaced by Poirier. While the latter was not only an anatomist, but a surgeon whose practice increased so as to be somewhat prejudicial to instruction, Farabeuf was devoted exclusively to instruction, for which he had extraordinary gifts, his lessons being of remarkable clearness and definiteness. The same qualities were found in his monograph on the blood-vessels of the perineum and the pelvis, published in 1905 and his "Introduction to the Clinical Study and Practice of Obstetrics," published in collaboration with Dr. Varnier, in 1891; but the book which brought Farabeuf his greatest reputation was his "Précis of Operative Technic," comprising the operative technic of ligatures, amputations and resections, which has had several successive editions since 1872, the last having been published in 1909. This work is a veritable masterpiece of clearness and precision.

BERLIN LETTER

(From Our Regular Correspondent)

BERLIN, August 11, 1910.

Personal

At the end of the summer semester, Professor Riedel, director of the surgical clinic at Jena, resigned his position. Riedel had to undergo an amputation for arteriosclerotic gangrene six months ago.

Another X-Ray Victim

A victim to *x*-ray cancer like the London physician Cox, who lately died of this disease, is furnished by Prof. Albers Schönberg, the well known *x*-ray investigator at Hamburg. He acquired an ulceration of the skin during his early studies before the injurious action of the Roentgen rays was known. This eventually underwent malignant degeneration and recently necessitated the amputation of his left forearm. Some fingers of the right hand are also crippled. Other *x*-ray investigators have chronic incurable skin affections. Sterility occurs in consequence of exposure to the Roentgen rays more frequently than is generally known.

International Thalassotherapy Congress

The Fifth International Congress for Thalassotherapy will meet at the well known German watering place on the Baltic, Colberg, in Whitsunday week of next year. Dr. Foerster, the director of the Prussian medical bureau, has the presidency of the German committee.

Organization of Rescue Work in Mines

The numerous severe catastrophes that have occurred in the last few years in the mines of various countries have compelled the authorities to give attention to the development of a life-saving service for mines. In Germany for a long time much attention has been given to the manufacture of life-saving apparatus. The management of many mines have trained special rescue crews for their mines and in some mining districts rescue emergency stations have been established. A further development of this organization is now contemplated in one of the largest mining districts of Germany, the Rhenish-Westphalian anthracite coal districts. In this district where already the individual mines possess 7,000 sets of rescue apparatus and 2,500 trained men in the rescue crews it is planned to establish a central station for the mine rescue service. This bureau is to keep in stock the apparatus for rescue of miners, and to supervise the training of the men from all the mines. This supervision is to be carried out by expert officers. In order to keep the training of the crews at its highest efficiency, the officers of the rescue stations are occasionally to take part in the exercises of the rescue crew. A further function of the bureau is the testing and reporting on new forms of apparatus and other branches of rescue work.

The Campaign Against Pulmonary Tuberculosis by the Wage-Earners' Insurance Organizations

According to official statements, 42,000 persons were treated for pulmonary tuberculosis in 1909 by the German invalid insurance societies. In order to determine the results of the treatment of tuberculosis in the public sanatoria, the imperial insurance office instituted investigations as to how many of the persons treated in the sanatoria were able to work five years after their dismissal. It was found that in the period of treatment from 1897 to 1901, at the end of the period 25 per cent. of the men and 32 per cent. of the women had their earning capacity restored. At the end of the period from 1904 to 1908, on the other hand, 44 per cent. of the men and 51 per cent. of the women were still able to work. The results of the treatment have markedly improved in recent years. The statistics also show that even patients in the third stage of tuberculosis (according to the classification of Turban and Gerhardt) are favorably influenced by the public sanatoria; of 3,590 men in the third stage, 1,649, that is, 47 per cent., were able to work on dismissal, and of these 553 have passed into a more favorable stage. Of 9,160 men in the second stage, 85 per cent. were able to work.

Study of Epizootics in German Southwest Africa

Professor Ostertag, the director of the veterinary department of the imperial health office, has been sent out by the imperial colonial office for the study of epizootic diseases in German Southwest Africa. He is to gather information by investigations on the ground respecting the character and the control of animal pestilences, especially that recently observed among sheep. In addition, Professor Ostertag is to make recommendations on the basis of his observations as to the best method of making use of scientific experience regarding animal pestilence by the establishment of appropriate organizations and especially by the development of the existing bacteriologic station.

Health and Vital Statistics of Prussia in 1908

From the report of the medical bureau of the Prussian department of education on the public health for 1908 (which has just appeared) a number of general interesting facts can be learned. The number of births in Prussia was 1,308,283, an absolute increase of 9,902 over the previous year. Of these, 38,884 were stillborn, an increase of 229 over the previous year. The proportion of the living born to 1,000 inhabitants was 32.99, a proportion which is smaller than that of any year previous to 1901. Of 1,000 births in the city, 30.43 were stillborn, but in the country 29.21. Of those born living, 651,426 were males, 617,973 females. The births of male children per 1,000 inhabitants diminished 0,32 over the previous year, that of female 0.15. Of all the births, 16,884 were plural, 16,716 being twins, 167 triplets, and 1 quadruplet. Of 1,000 children born in plural births, 42.31 were stillborn, making 13 more than single births. The number of marriages in 1908 were 311,331, nearly as many in the towns as in the country. (Prussia had a population of 3,293,324 in 1905.)

There were 693,724 deaths in 1908, an increase of 12,775 over the previous year. The excess of living births over the deaths was 575,675, which, with the exception of 1907 and 1906, is more favorable than in previous years. Of 1,000 inhabitants 19.17 male and 17.02 female, or altogether 18.03 persons died, a figure more favorable than in all previous years. The mortality in large cities of over 100,000 inhabitatants remains on the average, 16.51 per 1,000 living, below the average of the entire nation (18.03). The highest mortality is shown by the city of Posen (22.24), the lowest by the city of Schöneberg (11.44). Berlin had a death-rate of 15.42.

Miscellany

Military Psychiatry.—An interesting article by R. L. Richards, Captain Medical Corps, U. S. Army, on military psychiatry, appears in the *American Journal of Insanity* for July. He reviews the practice in foreign countries as regards the insane in the military and naval services and credits Russia as having been in some measure a pioneer in this matter. That country also gave the first practical demonstration of the necessity and importance of a complete psychiatric service from the firing line to the home hospitals in the late Japanese-Russian war. Most countries give more or less psychiatric instruction to military surgeons, the United States being about the last in the field. Psychiatric instruction is now being afforded to army medical officers in the Government Hospital for the Insane, Washington, D. C., which offers special advantages for this purpose. The most important problems confronting military surgeons in this regard are the special character of the insane patients that will come under their charge, the specially dangerous character of insanity occurring in certain military situations, the peculiar liability to it under the conditions of special stress which the soldier undergoes, and the necessity of proper scrutiny of recruits. The military insane are younger in years and show a higher recovery rate. The special conditions of exhaustion, specific poisons, etc., produce a comparatively simple form of mental disturbance tending to early recovery. A large number of men recover before reaching the home hospital. On account of the nature of military life the insane are potentially dangerous to a large number of people. An insane man in a regiment is a weak point in the line and this is especially true with the complicated organization of armies in modern warfare. Any physical or psychical weakness also comes to the front under such conditions. During the Russo-Japanese war the insane were seen wandering around everywhere in the battle line in spite of the best organization that the world has ever seen (Oserezkowski: *Militarwochenblatt*, 1906, No 140). In one instance a whole regiment was put into a panic which could only be explained by psychic infection from some mental weaklings. There is no way of preventing the presence of some such in a battle. Richards' investigations show that of the military insane received at the Government Hospital for the Insane, 13 per cent. had had previous attacks of insanity; 60 per cent. showed degenerative stigmata and 15 per cent. had had suspicious symptoms in their history. An appreciable proportion of the military offenders of the army are also to be classed among the psychic weaklings. The remedies for the conditions mentioned are simple in principle but somewhat difficult of application. Other countries are more strict in this regard than ours. The standard of mental efficiency fixed by Congress for an enlisted man is simply that he must "speak, read and write the English language" and take out his first citizenship papers. We have not, in this country, the police records, the school reports, etc., which are available in European countries, and we have to depend largely on the three months observation at the recruiting station to determine the fitness of the man for military service. In spite of all care, it is everywhere found impossible to prevent some incompetents passing the scrutiny. The question of establishing the degree of responsibility of the service for mental disability presents unusual difficulties from the fact that the etiology of mental diseases is not by any means usually clear. Hence the difficulty in case of application for pensions. It is especially difficult in the early stages of mental diseases during which the military surgeon has the cases under observation. The duty of the military surgeon in helping to establish the degree of responsibility of a military offender on account of mental defects is also mentioned and a knowledge of the conditions of military life is essential in considering these cases. The military surgeon has the advantage of better knowledge of the previous conduct of the offender under military conditions. The point has been made by a German authority that the legal, rather than the medical, standpoint must be taken since a military offense is relatively more serious and the effect on the regard for authority among the other soldiers is more dangerous than in civil life.

Disposal of Excreta.—Reporting his experiments on the disposal of excreta (*Public Health Reports*, Aug. 19, 1910), Dr. C. W. Stiles declares that if night soil containing fly larvæ is taken from surface privy and buried in 6½ inches of sterilized sand, the burial of the material does not insure the death of the insects; on the contrary the latter are able to penetrate the sand and to issue as adult flies. This emphasizes the fact that all fecal material should be rendered harmless, and raises doubt in regard to the popular faith in the dry system of disposal of excreta. Burial in 6½ inches of sand does not prevent hookworm larvæ from coming to the surface, and when placed in a 2 per cent. solution of crude phenol in water live eggs were found after 24 hours, but not at the next observation on the twenty-third day. This mixture killed hookworm embryos and larvæ in a few moments, observation being made under the microscope. Fly larvæ were also killed and flies did not oviposit on the floating fecal material treated in this manner, but on account of certain dangers Stiles does not recommend the use of this solution. Even 2 inches of water with a film of kerosene is exceedingly inhibitory to the development of the eggs of both *Ascaris lumbricoides* and *Necator americanus*. Under about 9 inches of water, with a film of kerosene, hookworm eggs begin to die after 4 days. Some may be found alive up to the twenty-ninth day, but no egg was found in the experiments which had developed to the "tadpole" stage. Stiles states that it would be unsafe from the standpoint of hookworm disease to throw the kerosene treated feces on the ground even after they had fermented for 33 days. If water and kerosene are added to a pail containing fly-blown feces, some of the fly larvæ succeed in crawling through the oil and escaping from the pail; but if the water and kerosene are placed in a tub before use, or before the feces become fly-blown, the feeding and breeding of flies, mosquitoes and other insects in the night soil seems to be eliminated, and thus the spread of filth and bacterial infection from the privy tub to food by means of insects appears to be excluded. The chief objections to the water-kerosene method seem to be that if the water is too deep splashing occurs; a tendency to economize may result in the use of too small a receptacle, the wet system calling for a larger receptacle than the dry; the feasibility of applying the method to manure piles in order to prevent the breeding of flies may be doubtful.

The privy is the great sanitary problem of the open country and non-sewered villages. As human carriers of bacterial and parasitic infections are not known, it is necessary to impress on the public that all human feces are dangerous. The burial of night soil without first treating it is dangerous and may result in disease. Burning or boiling human excreta is the ideal plan, but is not of universal feasibility. The surface privy is a distinct improvement over none, but is unwarranted in view of present day knowledge. The pail system is the least that can be demanded, but some safeguarding material should be used in the pail. If the dry earth system is used the privy must be made fly-proof. The advantage of the water-kerosene method is that it can be installed with so little trouble and change in present privies. Further studies are required on this system in connection with splashing and minimum time for fermentation. [The use of kerosene on night soil or on manure piles interferes with the usefulness of the material for fertilizer. Iron sulphate solution has been suggested as efficient in the destruction of fly larvæ in their breeding places, and does not prevent the use of the manure for fertilizer.—ED.]

Some Symptoms of Intussusception.—*Pain* is of great severity and usually paroxysmal. Rarely is it continuous at the start, though it often becomes so during the second and third day. The pain is usually referred to the umbilicus and is most marked during the first two days. In chronic cases it is almost always absent. *Vomiting* is most marked at the onset, but may continue severe throughout the attack. It is not so much a symptom of intussusception as it is of acute intestinal obstruction. The vomiting is projectile and uncontrollable. At first it consists of stomach contents, but soon it becomes greenish from the presence of bile and then, if obstruction to the intestines is complete, it becomes fecal. Fecal vomiting is not common in infancy, only from 10 to 11 per cent. of children under ten years having it. It is a bad sign, though not always a fatal one, and rarely seen before the third or fourth day. Vomiting is absent in chronic cases. *Bowel symptoms* are prominent. Characteristic symptoms of acute intussusception are the bloody and mucous stools, present in three-fifths or more of all cases. The discharge of blood frequently follows the attacks of severe colicky pain. In some cases it is not discharged spontaneously, and only when an enema is given do we get any evidence of blood. The amount of blood passed each time varies from a mere trace in the mucus to an ounce. Constipation in acute cases is usually complete, neither gas nor feces being passed. There are usually one or two watery stools after the onset. In some cases the opening at the apex of the intussusception may not be completely closed and in these cases there is complete constipation. Tenesmus is present in one-third of the cases and especially if the tumor is in the large intestine. Tympanitic distention is seen in one-third of the cases and occurs usually on the second or third day, the abdomen being usually soft and relaxed during the first day or two. The distention is especially marked if the lower bowel is involved, whereas if the invagination is high up in the small intestines it may be so slight as to go unnoticed. In cases in which the opening at the apex of the intussusception is not entirely obliterated the distention may not be marked, even though the obstruction is in the large bowel. *The tumor* is one of the most diagnostic symptoms. It may be present as early as a few hours after the onset and in three-fourths of all cases it is found on the first day. —H. J. Morganthaler, in *Am. Jour. of Obstet. and Dis. of Women and Children.*

Serodiagnosis of Syphilis in the Insane.—The thirty-first annual report of the Binghamton (N. Y.) State Hospital for the Insane in its pathologic section gives some data of interest in regard to serodiagnosis of syphilis in the insane. A series of cases was studied to determine the value of the precipitate reaction in the spinal fluid. The number of positive reactions in non-syphilitic cases was so great as to indicate that the precipitate reaction cannot be considered as specific for either paresis or syphilis. Similarly, Noguchi's butyric acid reaction was positive in so many non-paretic cases as to be considered inconclusive, and it is stated that the small quantities of the various solutions used by Noguchi give misleading results. The Noguchi modification of the Wassermann reaction was used in about 50 cases with positive results in all the paretics and other patients with syphilitic history, while all the non-syphilitic cases gave negative reactions. In 20 cases of paresis the tuberculo-opsonic index was studied. One case showed an index above normal; 6 were normal and the average of the 20 was 0.6, which is below normal. This would indicate that paretics have no natural immunity to tuberculosis, which is contrary to the view expressed by an investigator in one of the New York hospitals last year (THE JOURNAL, Feb. 13, 1909). Two of the 25 deaths of paretics were due to tuberculosis.

Autotoxemia and Infection.—In a communication to the Royal Society, London, June 23 (*Nature*, June 30), E. C. Hort reported some experiments made to show that the injection of small quantities of distilled water alone would cause in small animals the phenomena of bacterial and protozoan infection, such as fever, loss of weight, and changes in the antitryptic values of the blood serum. He produced fever in rabbits and guinea-pigs by the injection of boiled distilled water, one to sixty centigrams, and by proper spacing of the injections continuous fever could be produced. Hypersensitization was frequently observed. Small single injections were not conclusive as regards loss of weight, but multiple injection always produced it. Multiple injections of simple boiled distilled water always produced marked rise in antitryptic values, strikingly parallel with those produced by diphtheria toxin or living bacteria injections in the same species of animal. From these results he draws the inference that a part, at least, of the disease-complex of infection is the result of a state of true auto-intoxication, however great may be the part played by the bacteria and protozoa. Such auto-intoxications he suggests may be in part directly due to the absorption of derivatives of the infected cells themselves and only indirectly to the absorption of bacterial products.

Neri's Sign of Organic Hemiplegia.—The *Nouvelle Iconographie*, XXIII, 1910, 88, gives an illustrated description of the sign to which V. Neri calls attention. In some cases this sign occurs alone and it may be elicited when the patient is in coma. It consists in the spontaneous bending of the knee as the leg is passively lifted, the patient in the dorsal decubitus. The sound leg can be raised to an angle of 70 degrees without the knee's flexing, while the knee of the paralyzed limb bends between 40 and 50 degrees. If the patient stands erect with folded arms and is then told to stoop forward, keeping the legs stiff, the knee flexes on the paralyzed side, while the sound knee remains stiff. This sign is not pathognomonic of organic hemiplegia but is useful to corroborate other signs.

Pertinent Questions.—Why conserve coal mines and not conserve the life of the coal miner? Why conserve the cotton plant and expend $500,000 to fight the boll weevil and not conserve the people, who are to be clothed with the cotton? Why conserve the life of tree and fight the San José scale, and not conserve the people who eat oranges? Why conserve the life of the forest and forget the life of the forester and of his children? Why protect tree life and plant life and neglect human life? Why protect cattle from Texas fever and not protect people from typhoid and malarial fever? Why protect pigs and forget the children?—*Senator Owen, of Oklahoma.*

Sulphuric Acid Burns.—The spilling of sulphuric acid on the body or the clothes is not a very common accident, but it is well to remember that plenty of water applied immediately will prevent any harm. When spilled on clothes, sulphuric acid decomposes them so that they fall to pieces, but it should be generally known that application of water dilutes the acid and washes it away. Workmen sometimes break receptacles containing sulphuric acid, and malicious persons sometimes use it in the attempt to disfigure faces. If necessary, the hose can be turned on the affected person or he may be unceremoniously thrown into any body of water that is handy.

Marriages

HOMER PERSELL PROWITT, M.D., to Miss Elinor Meyer, both of Washington, Pa., August 22.

OLIVER PERRY BIGELOW, M.D., to Miss Emma K. Wright, both of Independence, Iowa, August 19.

WILLIAM EDWARD LADD, M.D., Boston, to Miss Helen Katherine Barton, of Worcester, Mass., August 18.

LEO BERTHOLD AUERBACH, M.D., El Paso, Texas, to Miss Harriet Stribling Clark, of Chicago, August 20.

R. GAINSFORTH JAMES, M.D., Gaines, Mich., to Miss Edythe May Stiff, of Ann Arbor, at Windsor, Ont., recently.

Deaths

William James, M.D. Harvard Medical School, 1869; eminent as a psychologist; formerly instructor and assistant professor of physiology; instructor in anatomy; assistant professor and professor of philosophy; professor and emeritus professor of psychology in Harvard University; recipient of honorary degrees from many universities of Europe and the United States; Gifford lecturer on Natural Religion in the University of Edinburg from 1899-1901; Hibbert lecturer on philosophy in Oxford University in 1908; author of standard textbooks on psychology; one of the founders of the American Society for Psychical Research; founder of the so-called "pragmatic" school of philosophy; of whose literary characteristics it was said that he wrote "science like romance;" died at his summer home in Chocorua, N. H., August 26, from heart disease, aged 68.

Joseph A. Scroggs, M.D. Rush Medical College, 1874; a member of the American Medical Association; emeritus professor of obstetrics in Drake University, Des Moines, Iowa; at one time a member and president of the State Board of Health and State Board of Medical Examiners; president of the Iowa State Medical Society in 1903; for many years surgeon of Keokuk & Western, and St. Louis, Keokuk & Northwestern Railways; died at his home in Keokuk, August 25, from diabetic gangrene, aged 62.

Abner Wellborn Calhoun, M.D. Jefferson Medical College, 1869; a member of the American Medical Association; pioneer oculist of the south; professor of ophthalmology and diseases of the ear, nose and throat, in the Atlantic College of Physicians and Surgeons; attending surgeon to Grady and Wesley Memorial hospitals and St. Joseph's Infirmary, Atlanta, Ga.; a Confederate veteran; died at his home in Atlanta, August 21, aged 65.

Guilford O. Bicknell, M.D. Vanderbilt University, Nashville, Tenn., 1882; a member of the American Medical Association and founder of the Munroe County Medical Society of Etowah, Tenn.; division surgeon of the Louisville & Nashville Railroad; died suddenly at a hospital in Danville, Va., August 12, aged 51.

John Wells Bulkley, M.D. Berkshire Medical College, Pittsfield, Mass., 1844; a member of the Medical Association of the District of Columbia, and senior member of the consulting staff of Providence Hospital, Washington, D. C.; died at his home, August 23, aged 86.

Francis Collamore, M.D. Dartmouth Medical School, Hanover, N. H., 1847; a member of the Massachusetts Medical Society; said to be the oldest practitioner in Plymouth county; died at his home in Pembroke, Mass., August 18, from cerebral hemorrhage, aged 84.

Elmer Erickson, M.D. College of Physicians and Surgeons, Chicago, 1909; assistant physician at the Elgin State Hospital; died at the Augustana Hospital, Chicago, August 17, from general peritonitis, following an operation for appendicitis, aged 22.

John W. Faucher, M.D. Indiana Medical College, Indianapolis, 1876; surgeon in the army during the Civil War and stationed at the General Hospital, Nashville, Tenn.; died at his home in Sheridan, Ind., August 19, from gastroenteritis, aged 71.

Jerome J. Valede, M.D. Detroit College of Medicine, 1882; a member of the Michigan State Medical Society; founder and president of the bank of Newport, Mich.; died at his home in that place, August 15, from chronic nephritis, aged 51.

Robert Thomas Bartram, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1886; a member of the Iowa State Medical Society; formerly of Albia, Iowa; died at his home in Ellsworth, Kan., August 12, from septicemia, aged 57.

John Morgan McLaughlin, M.D. University of Maryland, Baltimore, 1888; a member of the American Medical Association; of Webster Springs, W. Va.; died at a hospital in Clarksburg, W. Va., August 19, from typhoid fever, aged 50.

Herbert Marcus Goodman, M.D. Rush Medical College, 1909; an interne in Cook County Hospital; died at the home of his father in Chicago, August 19, after an operation for carcinoma of the pharynx, aged 27.

Arthur Benjamin Bevier, M.D. Bellevue Hospital Medical College, 1881; a member of the American Medical Association; died in his office in Ridgway, Pa., August 4, from cerebral hemorrhage, aged 52.

Russell Cleveland Campbell, M.D. Medico-Chirurgical College of Philadelphia, 1909; of New Germantown, Pa., is said to have committed suicide by taking cyanide of potassium, August 18, aged 24.

Clarence Lee Addleman, M.D. University of Pennsylvania, 1875; of Mammoth, Utah; a member of the State Medical Association; died in Greencastle, Pa., May 20, from narcotism, aged 67.

Dayne Hamilton Griffith, M.D. Jefferson Medical College, 1905; member of the staff of the Pittsburg, Pa., Hospital; died at North Bay, Ont., August 20, from acute gastritis, aged 26.

Emily A. Cady-Harris, M.D. Woman's Medical College of the New York Infirmary for Women and Children, 1889; died at her home in Rochester, N. Y., August 12, from diabetes, aged 49.

Henry Franz Koester, M.D. Bellevue Hospital Medical College, 1891; a member of the Medical Society of the State of New York; died at his home in New York City, July 28, aged 47.

Walter S. Graham, M.D. Hahnemann Medical College, Philadelphia, 1884; a member of the Florida Medical Association; died at his home in Miami, June 19, from tuberculosis, aged 52.

William Jefferson Easley, (license, years of practice, Ill.); formerly of Raymond, Ill.; died at the home of his daughter in Decatur, Ill., August 7, from senile debility, aged 82.

William Claude Usher, M.D. Harvard Medical School, 1908; an interne in the Boston Lying-in Hospital; was drowned in the Charles River, August 10, aged 24.

Joseph Brinton Crandall, M.D. Hahnemann Medical College, Chicago, 1878; died at his home in Clinton, Wis., July 4, from cerebral hemorrhage, aged 92.

Dana Bailey Goddard, M.D. University of Vermont, Burlington, 1899; died at his home in Brattleboro, Vt., July 22, from cerebral hemorrhage, aged 36.

George Donald Reid Simpson, M.D. University of Toronto, 1895; formerly of Hamilton, Ont.; died at his home in Toronto, April 8, aged 36.

August Hypolite Borey, M.D. Tulane University of Louisiana, 1905; died at his home in New Orleans, July 14, from appendicitis, aged 26.

Robert M. Gallen, M.D. Illinois Medical College, Chicago, 1904; died at his home in St. Louis, Mo., August 15, from diabetes, aged 34.

James A. Harris, (license, years of practice, Ill., 1878); died at his home in Carriers Mills, August 20, from heart disease, aged 74.

Walter Franklin Atlee, M.D. University of Pennsylvania, 1850; died at his home in Philadelphia, August 18, from pneumonia, aged 81.

James Brooks, M.D. Cleveland Medical College, 1844; died at his home in Ellington, N. Y., August 5, from carcinoma, aged 87.

Hiram Burton (license, Ind., 1897); died at his home near Somerville, Ind., August 17, from chronic nephritis, aged 78.

Pharmacology

HYDRONAPHTHOL

A correspondent having requested information regarding the composition of "Hydronaphthol," the product was investigated in the Association laboratory. The laboratory reports as follows:

> Hydronaphthol is sold by Seabury & Johnson. The label on a trade package of Hydronaphthol gives no clew as to the nature of the product. The statements on the labels do, however, make the claim that Hydronaphthol is an antiseptic of great power, also that it is non-toxic and therefore may be used with impunity; thus the following statements are made:
>
> "A harmless, practically odorless, non-poisonous, non-corrosive antiseptic . . ."
>
> ". . . it is non-poisonous and can be employed with perfect impunity as a preservative . . ."
>
> The substance has the characteristic appearance, odor and taste of naphthol. It responded to all the tests of the United States Pharmacopeia for betanaphthol, with the exception of the melting point, which was found to be 119 C. instead of 122 C., an indication of impurity. It is evident, therefore, that Hydronaphthol is merely a trade-name for betanaphthol. While resublimed betanaphthol is listed at 10 cents an ounce, Hydronaphthol is listed at 75 cents an ounce.

Hydronaphthol thus furnishes one more illustration of the fact that most proprietary medicines for which the most extravagant claims are made are but old and well-known remedies sold under a fancy name at a price far in advance of that charged for the constituent or constituents. The exploiters are extremely positive in their statements regarding the non-toxic character of the preparation. Yet, as a matter of fact, betanaphthol is by no means harmless; it has been absorbed by the diseased skin with injury to the kidney and with fatal results. In some cases injury to the eye has also occurred. These toxic actions should be known to the practitioner. From 3 to 4 gm. (1 dram) applied to the skin has produced death (Stern: *Therap. Monatshefte*, 1900, p. 165.) When a manufacturer advertises a preparation which possesses potentialities for harm, and especially when he puts it out under a name which conceals its identity, it is incumbent on him to warn the customer of possible injurious or inconvenient actions instead of proclaiming that the preparation is harmless.

PROPRIETARIES IN ITALY

The general discontent with the way in which proprietary medicines are being advertised in Italy is voiced by Dr. A. Zambler, in a communication in the *Gazzetta degli Ospedali*. He states that Dr. Silingardi has recently prepared a brief on the subject to call the attention of legislators to it. The subject is one, Zambler remarks, which while of great interest to the medical profession is of far greater interest to the sick and suffering public. The public authorities, he continues, can no longer close their eyes to the matter as the advertising propaganda has become so incessant and pervading. He says that the third edition of the Italian Pharmacopeia includes a notable display of proprietaries and it is the only Pharmacopeia thus distinguished. He does not comment on their value but only remarks that their inclusion in the Pharmacopeia is an effective form of official advertising in favor of the richer manufacturing firms.

He suggests that the authorities should forbid the sale of all proprietaries that fail to obtain a certificate from the national board of health as to their therapeutic value. Zambler comments that the means to dispel the evil are within reach. All that is necessary, he states, is for physicians to agree on the matter, and for the authorities to have the good of the public in view rather than the good of commercial private interests, and to have the present sanitary regulations more strictly enforced.

Correspondence

Wanted: Specimens of Nervous System From Fatal Cases of Poliomyelitis

To the Editor:—I should be greatly indebted to you for any assistance that you could render me through the columns of THE JOURNAL in enabling us to secure specimens of the nervous systems from fatal cases of epidemic poliomyelitis, a disease which is widely prevalent throughout the United States and Canada at present. We should like to obtain portions of the spinal cord and, by preference, of the lumbar or cervical enlargement removed as soon after death as possible, and preserved in plenty of pure glycerin, Squibb's or Merck's or Kahlbaum's. These specimens are to be used for experimental purposes; they can be sent by express at our expense, or by mail addressed to me at the Rockefeller Institute, Sixty-sixth Street and Avenue A, New York City.

SIMON FLEXNER.

Anglo-American Medical Association of Berlin Employs Permanent Secretary

To the Editor:—For the benefit of those who wish to do medical work in Berlin, the Anglo-American Medical Association has employed a permanent secretary who, on request, will furnish information concerning the medical courses obtainable here, the approximate cost, etc. Letters should be addressed to the secretary of the Anglo-American Medical Association, 105 B Friedrichstrasse, Berlin, Germany.

H. O. BRUGGEMAN, President, Berlin.

Obliterating the Monuments

To the Editor:—To one who has yet a pride in the achievements of American medicine and in the glory of its great names, it is painful to see pass out the educational monuments that kept in professional memory the great men of American medicine and memorialized them before the public.

If medical colleges are to become only annexes of great literary and scientific endowed universities it is not necessary, nor is it kind, that the honored, worthy and great medical names they represent in many instances, and in others have borne, should be obliterated and lost to the rising generation and to posterity. The profession reveres the names yet and none need be ashamed of them though men who love them then wrought in or founded only two-year schools (may be), where such physics and biologic results only were taught as the students of medicine must needs then have had and anatomy was demonstrated when most of the world was asleep, and when conditions and demands of study were not as they are now.

Chicago still honors the name of Rush. May it never cease to keep that honored American name, the first among the great psychiatrists, though few schools are yet teaching psychiatry. But what school bears the honored name of N. S. Davis? What school has ever honored Dudley of Kentucky? And where is the name of Marion-Sims, borne by a once meritorious medical school of St. Louis, rejoicing in this great name and in medical independence? Merged and silenced into an annex to another institution, the Catholic St. Louis University and the Beaumont.

And where are the Charles A. Pope School of Medicine and the Joseph N. McDonnell school? Likewise merged and lost in another university, the Washington University of St. Louis; and where is the "Humboldt-Hammer" school? Passed into the College of Physicians and Surgeons of St. Louis and the new regular changed from eclectic simply bears the name "American." Why should it not have been rechristened with an eminent American medical name? It would be well for the profession to have a care for its own if it would have them justly esteemed by others.

There are the names of Holmes, Parker, Bowditch, and others of Boston. There are the Brown-Sequards, the Drapers,

Dorseys, and hosts of others now dead but great in the annals of medical discovery and service, like the laborious Dunglison and others, like Paul Beck Goddard, who should be honored. Why is there not a memorial medical university, not an annex to a literary institution, but an independent exclusively medical university to Ephraim McDowell, to Nicholas Senn, to Valentine Mott and others like them, now gone to the glory of the skies, but not yet properly glorified by us here below in suitable structures of stone?

If we look for the living to memorialize there are the Mayo Brothers of Minnesota. There are Sajous, Shoemaker, and La Place of Philadelphia, to say nothing of Murphy, Finlay, Gorgas, Flexner, Ochsner, Billings, and many others among us yet in other cities and men abroad who have carved deathless names on Fame's memory tablets, and Osler, now not with us, but who worked like a trojan for Johns Hopkins.

At one time St. Louis, through its independent medical schools named after dead medical worthies, did more than any other city to keep the fame of its medical worthies alive by naming its medical colleges after them.

Why not have a renaissance of great men of medicine in memorial educational monuments to the work they did for the world's welfare, not in St. Louis and Chicago alone but in other cities and sections of the country?

Two St. Louis public schools bear the honored names of Pope and Hodgen. Why not name medical schools after them, also; and Watters, Linton, and others of that good old school? I saw John T. Hodgen in the ampitheater of the St. Louis Medical College more than thirty years ago, when he was teaching physiology there, repeat the demonstrations of Flourens on the cerebelli of pigeons and the school was then independent of Washington University, a two-year school with one previous year of home study with a preceptor its minimum requirement.

I saw practical toxicology demonstrated in such a way at the same school that I could never testify that hydrocyanic acid could take all day to kill a man as was testified to as a fact in the recent Hyde trial at Kansas City. This school had no university laboratory connection at that time either.

C. H. HUGHES, M.D., St. Louis.

Registration of Foreign Physicians

To the Editor:—I wish to express my approval of the letter on this subject in THE JOURNAL, August 6. I am a graduate of a medical school in Boston, but a South African by birth and held citizenship rights there before the war with England. Since my graduation here I endeavored to obtain the right of practicing in my own home, which has been denied me because of the laws existing in all British colonies. I have been given the privilege of taking an English degree, should I choose any of the colleges quoted by the council in London. As a means of obtaining this right, it was suggested that I go to Halifax (Nova Scotia) Medical College, where it would be easier to obtain a degree. This particular college has not received the approval of the Council on Medical Education of the American Medical Association or of the Carnegie Foundation. Nevertheless I was advised to go there by the registrar of the Medical Council of London, and to obtain a degree acceptable toward a certificate from the council in London which would enable me to practice in South Africa. Last year, in the Transvaal, after some agitation, through influential friends, a provision was made, which gave the right to the Transvaal Medical Council to grant certain privileges to South-African born students, desiring to attend and graduate from other than English medical schools.

It seems passing strange and unfair that the choice of the place of one's education should be denied to an inhabitant of a supposedly free and liberally governed country. It restricts the practice of medicine largely to the English, a great many of whom are graduates of colleges of not so good a standing as some American ones. If this information and protest will do any good to change the present state of affairs here and demand reciprocal rights, I shall be quite satisfied to remain here in my adopted country.

JAMES A. HONEIJ, M.D., Cambridge, Mass.

The Whistle in the Stomach, Who Blew It First? A Question of Priority

To the Editor:—The story is different from that told by Benjamin Franklin, but the moral is strikingly similar.

Eleven or twelve years ago I was possessed by the ambition to devise a method by means of which the exact length of the esophagus migh be clinically determined. While waiting for inspiration I did the customary thing—I whistled. Like Newton's discovery of the law of gravitation at seeing the apple fall, to me, likewise, came the idea while "wetting my whistle." Since my whistling at the esophagus and my whistling for the esophagus were like "whistling jigs to a milestone," why, thought I, whistling, not try to whistle into the esophagus? The result was that I did some more whistling and succeeded in hearing the sound of a whistle issuing from the innermost recesses of the abdominal viscera. To my ear it sounded like the first cry of my first-born.

I gave shape to my thoughts in a paper entitled "The Esophagometer or the Intragastric Whistle; A new Device for Measuring the Esophagus in the Living," which was read at the meeting of the Colorado State Medical Society, June 18-20, 1901, and which was subsequently published in the *New York Medical Journal*, Aug. 31, 1901.

I quote here a few lines referring to the principle on which the device is based and the description of the instrument.

> My method is based on the principle of acoustics, that sound is produced by the vibrations of air, and on the facts that the stomach is a hollow organ containing air, and that the esophagus when not in the act of swallowing is an air-tight organ. Hence, a musical instrument, when introduced into the esophagus, will produce no sound whatsoever throughout the whole of its length, but so soon as it reaches the threshold of the stomach, the cardia, it will emit a sound.
>
> My device consists of a stomach tube provided at its proximal end with a whistle. . . . The whistle is secured in the tube by tying it externally with a piece of catgut or silk. The tube is introduced into the esophagus, and air blown in by means of a pump, Davidson syringe, Politzer bag, the mouth, or what not. So long as the whistle traverses the esophagus the instrument is smothered and no sound is heard; but, so soon as the cardia is reached a distinct whistle is heard. The tube can be pushed forward and backward several times so as to ascertain the exact point at which the whistle becomes audible. The distance between the distal border of the side opening of the tube and the point at the incisor teeth where the whistling sound is first heard represents with precision the distance between the incisor teeth and the cardia.

An illustration of the instrument accompanied the article.

All these years I have been nursing the belief that I am the only and original whistler who first blew a note into the expanse of the stomach, and that to the end of time wherever the muffled sound of the intragastric whistle would be heard, there also the sound of my name would be echoed. But alas, my dream of fame and immortality is now hanging in the balance. There is another man who clamors for the honor and claims the first gastric blast.

Dr. Robert Coleman Kemp, in his treatise on "Diseases of the Stomach and Intestines" (Saunders, Philadelphia, 1910) gives a description and illustration of a stomach whistle which is identical with mine of 1901 vintage. Under the illustration is to be found the modest legened: "Kemp's Stomach Whistle."

The question at issue is: Who of us two whistled first into the stomach, and whether in the subsequent editions of Kemp's excellent treatise the legend under the illustration should be retained or changed.

I paid in full for Dr. Kemp's book and thought it was fully worth the price until I found there the story of the whistle, the moral of which, until proof to the contrary be forthcoming, is that I paid too much for my whistle.

C. D. SPIVAK, M.D. Denver.

[A proof of the above letter was submitted to Dr. Kemp, who replies:]

To the Editor:—Though I exercised considerable care during the preparation of my recent work on "Diseases of the Stomach and Intestines," especially in properly crediting other authors and their investigations, I must frankly confess that I had not seen Dr. Spivak's article or known of its

existence, and therefore did not credit him as the "original whistler." The instrument depicted in my book has a specially made thick-walled bulb attachment and the air is forced into the esophagus and immediately aspirated out, passing through the whistle extremity on both occasions. It will whistle in the esophagus, though to a much less marked degree than in the stomach. Dr. Spivak's references to the principles of acoustics are perfectly correct, but esophageal whistling can be readily produced by forced inspiration and aspiration by my unfortunate instrument.

As to changing the legend under the illustration, every aeroplane is not labeled "Wright," or every esophagoscope with the name of the discoverer of the instrument. There are "others." Dr. Spivak, however, should be duly credited.

Unfortunately, as I am on a summer tour and have no access to my own literature, I can only give approximate dates. My whistle was reported in the *Medical Brief*, I believe, early in 1904 in connection with gastrodiaphany and other methods of determining the position of the stomach as a means of comparison; also at an earlier period in the *Medical News*, and was demonstrated previous to this at my clinics at the Manhattan State Hospital. I believe, however, that Dr. Spivak must be the "original whistler" and in the next edition of my book, I shall be pleased to credit him as such. I note with pleasure that he thought my book worth the price until he "ran against" my whistle. I trust that my "amende honorable" will make him hereafter feel that he has not paid too much for his whistle.

ROBERT COLEMAN KEMP, M.D., New York.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

SIGNIFICANCE OF CYLINDROIDS

To the Editor:—Please give answers to the following: 1. What is the origin of cylindroids in the urine? 2. Have cylindroids any pathologic significance? 3. Have cylindroids coated with granules (urates) any significance? 4. Is there any definite means of distinguishing tailless cylindroids from hyaline casts? A. M.

ANSWER: 1. Cylindroids proper are believed to be of renal origin and closely related to true casts; formations are sometimes observed in which there is a tube cast at one or each end of a cylindroid, and continuous with it.

2. Cylindroids are present wherever hyaline casts are seen and have essentially the same significance.

3. The coating of the exterior of the cylindroid with urates would probably be due to the deposition of urates after the cylindroid had left the urinary tubules and would indicate merely a tendency to deposit of urates. Cylindroids with granules in the interior are of somewhat graver import than merely hyaline cylindroids.

4. We know of no means of distinguishing them.

COOPERATION OF THE LARYNGOLOGIST AND THE DENTIST

To the Editor:—In the study of the etiology of the morbid conditions within the nose and accessory sinuses one is struck with the part played by malformations of the septum. Ventilation, functional activity and drainage are not always involved, yet the last ten years of study has told us that this is to the rhinologist what the appendix is to the abdominal surgeon. With any degree of deflection an acute rhinitis or influenza infection is much more likely to produce a sequence of chronic troubles.

According to Freeman and Trendelenburg, the common cause of deflection is the high or gothic arch of the hard palate. According to Schlaus, this may be a form of faultly development with facial bone involvement. With due credit to Talbot this may be a stigma of degeneracy. It is difficult to arrive at any definite conclusion but a high arch is nevertheless common to these cases (as well as in degeneracy as shown by Powell of Chicago). Therefore, why should we not subject growing children with the gothic arch and beginning deflection to the dentist, for correction of the deformity before development and ossification are firmly established? Is this not a fertile field for cooperation between the rhinologist and the dentist? F. J. WALTER, Waterloo, Ia.

ANSWER.—Cooperation of the laryngologist and dentist is frequently important, for the early correction of the gothic arch of the hard palate will undoubtedly help deflection of the septum just as removal of the adenoids and tonsils will in many cases correct deformities of the teeth. Nevertheless, there is a danger of overestimating the importance of deflection of the septum. We cannot agree with the statement that "With any degree of deflection an acute rhinitis or influenza infection is much more likely to produce a sequence of chronic troubles."

Fifty per cent. of the Caucasian race have deflection or exostosis of the septum, yet it is only in a very limited number of these that the condition gives rise to any trouble. There is no unanimity of opinion among laryngologists as to the cause of deflection of the septum. Many laryngologists believe that it is due to injury of the nose, yet no proof can be advanced for this theory, because there are very few individuals who do not receive more or less severe bumps on the nose at some time during their lives. The theory that deflection is commonly due to overgrowth of the septum in consequence of a catarrhal condition that brings an excessive supply of blood to the part has many arguments in its favor. As a rule, it is not worth while to operate on young children for deflection of the septum because the condition is very apt to return within a year or two, therefore, if in these children a high arch could be corrected by the dentist it might prove beneficial.

The Public Service

U. S. Public Health and Marine-Hospital Service

Changes for the fourteen days ended Aug. 24, 1910.

Pettus, W. J., asst.-surgeon general, granted 1 month and 15 days' leave of absence from Aug. 29, 1910.

Cofer, L. E., asst.-surgeon general, granted 6 days' leave of absence from Aug. 22, 1910.

Mead, F. W., surgeon, granted 30 days' leave of absence from Aug. 23, 1910.

White, J. H., surgeon, granted 1 month's leave of absence from Aug. 17, 1910.

Williams, L. L., surgeon, granted 7 days' leave of absence from Aug. 11, 1910, under paragraph 189, Service Regulations.

Stimpson, W. G., surgeon, leave of absence for 20 days from Aug. 11, 1910, amended to read 6 days from Aug. 11, 1910.

Sprague, E. K., surgeon, granted 1 month's leave of absence from Aug. 28, 1910.

Fox, Carroll, P. A. surgeon, granted 10 days' leave of absence en route to station.

McClintic, Thomas B., P. A. surgeon, granted 7 days' leave of absence from Aug. 15, 1910, under paragraph 191, Service Regulations.

Gwyn, M. K., P. A. surgeon, granted 10 days' leave of absence from Aug. 28, 1910.

Foster, A. D., P. A. surgeon, directed to proceed to New Orleans and report to the medical officer in command for duty and assignment to quarters.

Lanza, A. J., asst-surgeon, granted 7 days' leave of absence from Aug. 14, 1910.

Marshall, E. R., asst.-surgeon, granted 21 days' leave of absence from Sept. 14, 1910.

Krulish, Emil, asst.-surgeon, granted 1 month's leave of absence from Aug. 16, 1910.

Duffy, Benedict J., asst.-surgeon, directed to report to the medical officer in command at Buffalo, N. Y., for duty Aug. 12, 1910.

Cleaves, F. H., acting asst.-surgeon, granted 14 days' leave of absence from Aug. 7, 1910.

Gleason, C. M., acting asst.-surgeon, granted 14 days' leave of absence from Aug. 15, 1910.

MacCallum, Charles, acting asst.-surgeon, granted 30 days' leave of absence from Aug. 12, 1910.

Schuster, B. L., acting asst.-surgeon, granted 4 days' leave of absence from Sept. 1, 1910.

Wright, F. W., acting asst.-surgeon, granted 12 days' leave of absence from Sept. 1, 1910.

Duffy, Dr. Benedict J., commissioned (recess) an asst.-surgeon in the Public Health and Marine-Hospital Service, Aug. 5, 1910.

Wickes, Henry W., P. A. surgeon, commissioned a surgeon (recess) to rank as such from Aug. 3, 1910.

Book Notices

AGE INCIDENCE, SEX, AND COMPARATIVE FREQUENCY IN DISEASE. By James Grant Andrew, Bachelor of Medicine and Master of Surgery. Cloth. Price, $4.20 net. Pp. 439, New York: Paul B. Hoeber, 69 E. 59th St., 1909.

This book represents a comparative study and tabulation of over 42,000 cases from a single institution, covering diseases of all the different systems, classifying them by sex and the decennial age periods, and giving the results in number of cases and percentages. It represents an enormous amount of work, but its value in many instances may be open to question, on account of the small number of cases available. For instance, in a total of less than 400 bladder affections, only two cases of enuresis are recorded, and deduc-

tions from such a small number could not be of much value. This holds with reference to the vast majority of affections. In cancer about 1,600 cases are recorded, and in sarcoma 300, including all the different varieties. Here the figures may be of more value. The finding in this series of cases of carcinoma is that between 50 and 60 is the period of greatest frequency, and in regard to sarcoma that there is practically no difference between the decennial periods. Ovarian affections are found most frequently between 20 and 30. Other findings do not differ materially from those already stated. A brief definition is given of each disease, and some general deductions are made aside from the figures. The book will be of interest for reference by workers in any particular disease or branch of medicine.

THE DEVELOPMENT OF PUBLIC CHARITIES AND CORRECTION IN THE STATE OF INDIANA. Paper. Pp. 132, with illustrations. Indianapolis: Board of State Charities, State House, 1792-1910.

Indiana is recognized as being well in the forefront of the states in the conduct of its penal, correctional, and eleemosynary institutions. This pamphlet of 132 pages on the history, development, aims, and purposes, together with statistics of the work of the seventeen charitable and correctional institutions in the state, makes an interesting document. Each of the institutions is described and illustrated with halftone pictures, the plans of many of the institutions being given. A history of the legislation creating each one, its purpose and the manner of conducting it, is given, and the results of child-saving work, of the truancy law, the indeterminate sentence law, county and township charities, the work among the insane, the epileptic and the feeble-minded, are all set out in statistical and graphic manner. The pamphlet has a table of contents and an index and is an interesting contribution to sociologic work.

TWENTY-FIRST ANNUAL REPORT OF THE DIRECTOR OF THE PSYCHIATRIC INSTITUTE, 1908-1909. To the State Commission in Lunacy, State of New York [Adolf Meyer, Director, Pathological Institute, Ward's Island, New York]. Paper. Pp. 131. 1910.

This report gives a synopsis of the courses of instruction and observation laid out at the Psychiatric Institute for the benefit of the physicians of the other state institutions, covering periods of one week to three months. It also describes the efforts to establish standards so that the information might be used for statistical purposes, and gives a report of the clinical work, with descriptions or histories of cases of the various clinical classifications, the histologic findings in the brain and cord of those cases available for such examination, whose histories are given, and of other specimens sent for examination from other states, with an analysis of the cases by groups and subgroups. The whole report makes an interesting and valuable study for reference by the alienist or psychiatrist.

MONOGRAPHS ON MEDICAL AND ALLIED SUBJECTS. Published by the Rockefeller Institute for Medical Research. No. 1. Issued June 30, 1910. Paper. Pp. 130, with illustrations. New York: 66th St. and Ave. A. 1910.

This is the first of a series of monographs on medical and allied subjects to be issued at irregular intervals by Rockefeller Institute for Medical Research. It contains five papers, profusely illustrated with microphotographs and other plates, one of them colored. Some of the papers are on tumors and experiments by Flexner and Jobling in transplanting tumors in the rat, mouse, and monkey; and one is on some experiments by Maud L. Menten with radium bromid on carcinoma in the rat. The whole representing work done in the Rockefeller Institute.

CONGENITAL DISLOCATION OF THE HIP. By J. Jackson Clarke, F.R.C.S., Senior Surgeon to the Hampstead and North-West London Hospital. Cloth. Price, $1.50 net. Pp. 92, with 55 illustrations. New York: Paul B. Hoeber, 69 East 59th St., 1910.

The author began his work in 1903 after Lorenz's visit to London, and he reports 40 cases. Except for the report of these cases the book contains little that might not have been heard and observed at a clinical lecture by Lorenz eight years ago, with such additions as a surgeon, who had operated on only a few cases and had not yet "found himself," might be expected to set down when writing a book. In a word the book contains nothing new of any value and much that is ancient, unnecessary and misleading.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

The Economic Value of Health

In the twenty-first annual report of the State Board of Health of Florida, the president of the board in his letter of transmissal to the governor emphasizes the value of the State Board of Health and its work to the people of the state, as a business asset. The contrast between present and previous conditions is admirably drawn. The fact that the president of the board is a layman adds interest to the letter.

"It is a well known fact that prior to the great epidemic of yellow fever in 1888 the increase in the state's population from immigration was almost inappreciable compared with the gain since the period mentioned. It is within the memory of even our younger people that as each summer came there was talk of yellow fever, its probability of occurrence and the point where it would first make its appearance. This periodic agitation of a subject which vitally interested not only the physical life of the citizen, but his business existence as well, brought about conditions which yearly disturbed home comfort and retarded the coming of people into the state, besides restricting the investment of capital, so necessary to develop many important industries and avenues of commerce which held out flattering returns. People were scary, and naturally so in placing their money where health conditions were so uncertain and where an epidemic of yellow fever depressed values to a degree that it would take years of exemption to recover from. Then again, the diversity of opinion as to management when disasters of this character did occur and the inconvenience and annoyance to travel and commerce which arose on each county line, demoralized both the citizen and business, so that, at almost every path and by-road in the state, the traveller, whether from an infected portion of the state or not, was harassed by guards, who in the majority of instances were ignorant of the essential requirements of their positions, and who rendered really no practical service in restricting the spread of a contagion, but did inflict, by their orders and insistence on them, many indignities on women and children, and, in several instances, serious impairment to health.

"Compare the conditions existing in the state in 1888 with an epidemic of yellow fever in Jacksonville, and the conditions which prevailed in 1905 with an epidemic of the same disease in Pensacola, Fla. In the former instance, panic prevailed; every man's hand was raised against his neighbor of adjoining counties, under a false supposition of protection against an unseen enemy; commerce was strangled and stagnation of business consequently followed. In 1905—in the latter instance—without a ten-mile area around Pensacola, travel within the state was undisturbed. Business followed its usual methods and there was no panic, no excitement, no hysteria of even those most skeptical of the ability of the State Board of Health to cope with the situation and confine the disease to one point in the state, where it had unfortunately gained entrance, which occurred, however, through no lack of careful supervision or attention. Even when a case of yellow fever occurred in Tampa by direct importation from New Orleans, at a period in the history of that epidemic when the disease was not known to exist in New Orleans, there was no uneasiness felt at Tampa, and there was not for one minute a suspension of travel or commercial relations with the other portions of the state....

"Is it unreasonable, therefore, to argue or to maintain that the part played in the wonderful development of Florida since 1888 has been due very largely to a confidence in the safety of living in the state, which confidence has been inspired by the work which the State Board of Health has done along health lines and which it is still earnestly engaged in? Would people come to the state from the west, northwest, northeast, and middle west, buy property, institute new industries, and settle permanently among us, if they did not feel that their lives were being guarded against disease, and their accumulations of property interests were being protected against needless fright and senseless panic? I do not say nor pretend to assert that the State Board of Health has been the only factor in the strides which Florida has made towards financial development in the past twenty years, but I do maintain without fear of successful contradiction, that the board has contributed a large share to the success which the state now

enjoys, and it will be recognized in the future, if not already so considered, as an investment on the part of the people which should be allowed the greatest latitude of administration."

"Antivivisection Mush"

A recent criticism of the Bureau of Animal Industry at Washington is commented on as follows by the Natchez (Miss.) *News*, under the above heading:

"Sentimental antivivisectionists of Washington are raising a howl because they have discovered that the Bureau of Animal Industry and other government institutions in the capital have done some vivisection work on dogs and threaten prosecution; they also threaten to have a law passed prohibiting vivisection under any circumstances in the District of Columbia, it being permissible now for medical or scientific purposes. The great trouble with many self styled reformers is that they make themselves ridiculous. Whoever will make the least effort can learn that much of the progress of modern medicine and biologic science is due to vivisection; some of the most important discoveries are due to wilful destruction of lower life.

"Theoretically, the humblest insect is entitled to life and the pursuit of happiness as the greatest human genius; but it must be carefully remembered that man has reached his high stage only on account of his fitness to survive, and on account of the fact that to gain his own ends he regards all other forms of life as subservient to his purpose. Animals are killed for their flesh and vivisection is practiced because in that manner only can many processes of life, of health or of disease, be determined. That unnecessary cruelty should be forbidden is admitted by all, but from the human point of view there is no cruelty in vivisection, if by practicing it on a dog or on a guinea-pig, something of importance can be learned. And a new discovery is of the utmost importance, whether its applicability be immediate or in the distant future. Every scientific discovery sooner or later will demonstrate its utility to mankind. From a purely doctrinal point of view it is cruelty to the dog to submit him to vivisection, but his feelings in the matter should be consulted no more than the feelings of animals are consulted when they are slaughtered for food.

"Such reformers as the antivivisectionists can find much suffering among human beings to exercise their kindness and charity on. Even in civilized countries human beings suffer pain, hunger, humiliation and other misfortunes that cry for relief and for whom relief could be found; nearly all the suffering caused in vivisection is caused for the benefit of mankind, and man is and should be the first consideration of man."

State Boards of Registration

COMING EXAMINATIONS

IOWA: Capitol Building, Des Moines, September 12-14. Sec., Dr. Guilford H. Sumner, State House.

MASSACHUSETTS: State House, Boston, September 13-15. Sec., Dr. Edwin B. Harvey.

MISSOURI: Capitol Building, Jefferson City, September 20-22. Sec., Dr. Frank B. Hiller.

NEW YORK: Albany, September 27-30. Chief of Examinations Division, Dr. Charles F. Wheelock.

Georgia May Reports

Dr. I. H. Goss, secretary of the Georgia Board of Medical Examiners, reports the written examinations held at Atlanta, May 4-7 and at Augusta, May 2-3, 1910. The number of subjects examined in was 10; total number of questions asked, 100; percentage required to pass, 80.

At the examination held at Atlanta, the total number of candidates examined was 113 of whom 108 passed and 5 failed. The following colleges were represented:

PASSED College.	Year Grad.	Per Cent.
Howard University	(1909)	84.
Atlanta College of Physicians and Surgeons, (1910) 80, 81, 81.5, 82, 82.5, 83, 83, 84, 84, 84, 84, 84, 84, 84.5, 84.5, 85, 85, 85, 85.5, 85.5, 86, 86, 86, 86, 86, 86.5, 87, 87, 87.5, 87.5 87.5, 87.5, 88, 88, 88, 88, 88, 88, 88, 88, 88.5, 88.5, 89, 89, 89.5, 89.5, 90.5, 91, 92.5, 95, 95.5.		
Atlanta School of Medicine, (1910) 80, 82, 83.5, 84, 84, 84, 84, 84, 85, 85, 85, 85, 85, 85.5, 85.5, 86, 86, 86, 87, 87, 87, 87, 87, 87, 88.5, 89, 90, 90, 90, 91, 91, 91, 91.5, 92.5, 95.		
Albany Medical College	(1899)	93.5
Leonard School of Medicine	(1908)	81.5
University of Tennessee	(1908) 86; (1910)	92.
University of the South	(1909)	83.
Meharry Medical College (1906) 82; (1908) 85, 87; (1910) 80, 81, 83, 83, 85.5, 86, 86, 89, 89.5, 89.5.		
Medical College of Virginia	(1869)	87.

FAILED College.	Year Grad.	Per Cent.
Leonard School of Medicine	(1905)	76.
Chattanooga Medical College	(1910)	78.
Meharry Medical College	(1910)	77, 79.
Knoxville Medical College	(1908)	74.5

At the examination held at Augusta, the total number of candidates examined was 14 all of whom passed. The following colleges were represented:

PASSED College.	Year Grad.	Per Cent.
University of Georgia, (1910) 84, 84.5, 84.5, 85, 86.5, 86.5, 87, 87.5, 88, 90, 90.5, 92, 92.		
Medical College of South Carolina	(1906)	88.

LICENSED THROUGH RECIPROCITY SINCE MAY 1, 1910

College.	Year Grad.	Reciprocity with.
University of Missouri	(1895)	Virginia
University of Pennsylvania	(1887)	Florida
Memphis Hospital Medical College	(1910)	Tennessee
University of Nashville	(1908) (1910)	Tennessee
Meharry Medical College	(1909) (1910)	Tennessee
University of Virginia	(1907)	Virginia

The following questions were asked:

ANATOMY

1. Name bones of tarsus. What bones form internal malleolus? External? What bones comprise the pelvis? Name divisions of vertebral column, and give distinguishing characteristics of cervical vertebra. 2. What muscles aid in mastication? In deglutition? Give origin, nerve and arterial supply of masseter muscles. What muscles compose quadriceps extensor femoris? Give origin and insertion of quadriceps extensor femoris. 3. Name divisions of alimentary canal. Name principal glands found in small intestine. What is average size of stomach? Give blood supply. Name abdominal viscera wholly covered by peritonetum? Partially covered? 4. Name and illustrate by diagram the regions of abdomen; where in the topography of abdomen is vermiform appendix. Describe briefly Poupart's ligament. 5. Give origin of left common carotid artery. Name branches of left external carotid. Name twelve pair nerves of special sense. Give origin and cranial exit of pneumogastric nerve. Name the three most important branches.

PHYSIOLOGY

1. Define reflex action and give example. 2. Describe the functions of the kidneys. 3. Give the normal constituents of the urine. 4. What is meant by digestion? 5. Name the secretions of the alimentary canal, their reactions and functions.

CHEMISTRY

1. Give test for albumin and sugar in urine. 2. Describe chemical test for blood. 3. Is organic material admixed to water always deleterious, and when is it? 4. Define an alkaloid, and name three principal ones used in medicine. 5. How are solutions, suspected to contain arsenic, to be tested?

MATERIA MEDICA AND THERAPEUTICS

1. Ergot: Its physiologic action. Its principal uses. 2. Cocain hydrochlorid: Its physiologic action. Its principal uses. 3. Chloroform: Define it. When is it indicated as an anesthetic? 4. Ether: Define it. State the conditions that render it preferable as anesthetic. 5. Define a mydriatic, also a myotic. Give examples of each with dose for local application in each case.

PRACTICE OF MEDICINE

Influenza: Definition. Etiology. Bacteriology. Symptoms. Types of the disease: 1. Respiratory. 2. Nervous form. 3. Gastro-intestinal form. 4. Febrile form. Diagnosis. Treatment. Jaundice: Definition: 1. Obstructive jaundice, causes of. General symptoms of obstructive jaundice. 2. Toxemic jaundice. Causes. Treatment in each group. Leukocytosis: In what diseases does it occur and in what diseases is it absent. Appendicitis: Give the symptoms of. Colic: Renal and hepatic, make a differential diagnosis Between.

SURGERY

1. Define abscess? Aneurism? With what condition may aneurism be confounded? Make briefly a diagnosis of coma from injury, apoplexy, uremia, opium poisoning, and alcoholic intoxication. 2. Define peritonitis. State two or more ways in which the peritoneum may be invaded by bacteria. What are the contraindica-

tions respectively to the use of the three principal anesthetics—nitrous oxid, ether, chloroform. 3. What is dislocation? Fracture? Give differential diagnosis between fracture and dislocation. Describe Colles' fracture. Outline treatment of same. 4. What is hemorrhage? How would you arrest epistaxis. Describe operation for ligation of subclavian artery in its third portion. What arteries require ligating in amputation, at middle third of leg? 5. Describe complete indirect inguinal hernia. Give symptoms of strangulation, methods of reduction, and operation if strangulation exists. Describe an approved operation for the radical cure of oblique inguinal hernia.

GYNECOLOGY

1. Give causes and treatment of uterine hemorrhage. 2. Under what conditions would you prefer vaginal to abdominal hysterectomy. 3. Describe technic of vaginal hysterectomy. 4. Give differential diagnosis between fluids in abdominal cavity and ovarian cysts. 5. Describe ectopic pregnancy, varieties, and operation for same.

OBSTETRICS

1. Would the coincidence of diabetes with pregnancy have a harmful effect on the latter? What would you do for such patient? 2. Give treatment of a subinvoluted uterus. 3. Differentiate between putrid and true puerperal infection and give treatment of each. 4. How would you distinguish between an epileptic and an eclamptic convulsion? 5. What are the indications for the use of forceps?

PATHOLOGY

1. Give the pathology in simple lobar pneumonia. 2. Give the pathology of pellagra with etiology. 3 Give the pathology in hookworm disease. 4. Describe the pathologic conditions in meningitis. 5. (a) How is fibrous tissue formed? (b) What tumors are composed largely of fibrous tissue, and in what part of the body do they usually occur?

Kansas June Report

Dr. F. P. Hatfield, former secretary of the Kansas Board of Medical Registration and Examination, reports the written examination held at Kansas City, June 14-16, 1910. The number of subjects examined in was 10; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 65 of whom 54 passed and 11 failed. Twenty-three reciprocal licenses have been issued since January 1, 1910. The following colleges were represented:

PASSED

College.	Year Grad.	Per Cent.
Howard University, Washington, D. C.	(1907)	81.
Northwestern University Medical School	(1910)	78, 84.
Kansas Medical College, (1910) 80, 81, 81, 81, 82, 82, 83, 83, 85, 86, 86, 86		
University of Kansas, (1910) 80, 80, 80, 80, 81, 81, 82, 83, 83, 83, 84, 84, 85, 85, 86, 87, 87, 87.		
University Medical College, Kansas City, (1910) 75, 77, 78, 80, 81, 81, 81, 82, 84, 85, 85, 87.		
Kansas City Hahnemann Medical College	(1910)	82, 85, 85.
Eclectic Medical University, Kansas City	(1910)	83.
Barnes Medical College	(1910)	76, 78.
St. Louis College of Physicians and Surgeons	(1909)	75.
Columbia University, College of Physicians and Surgeons	(1910)	84.
Bellevue Hospital Medical College	(1883)	82.

FAILED

University of Kansas	(1900)	72.
Central Medical College, St. Joseph	(1896)	61.
Eclectic Medical University, Kansas City	(1910)	67, 71.
University Medical College, Kansas City	(1910)	68, 73.
Ensworth Medical College, St. Joseph	(1909)	42.
St. Louis University	(1907)	60.
Kansas City Hahnemann Medical College	(1910)	67.
Bellevue Hospital Medical College	(1878)	71.
Eclectic Medical College, Cincinnati	(1910)	58.

LICENSED THROUGH RECIPROCITY

College.	Year Grad.	Reciprocity with.
Hering Medical College, Chicago	(1906)	Illinois
Keokuk Medical College, College of Physicians and Surgeons	(1903)	Iowa
Iowa College of Physicians and Surgeons	(1884)	Iowa
Central College of Physicians and Surgeons, Indianapolis	(1902)	Nebraska
University of Louisville, (1895) Kentucky; (1896)		Illinois
Baltimore Medical College	(1899)	West Virginia
College of Physicians and Surgeons, Baltimore.	(1908)	West Virginia; (1909) Oklahoma
University of Michigan, Department of Medicine and Surgery	(1892)	Iowa
Barnes Medical College	(1903)	Illinois
Eclectic Medical University, Kansas City	(5, 1910)	Arkansas
University Medical College, Kansas City	(3, 1910)	Arkansas
American Medical College, St. Louis	(1879)	Ohio
Eclectic Medical College, Cincinnati	(1881)	Indiana
Chattanooga Medical College	(1906)	West Virginia
Trinity Medical College, Toronto, Ontario	(1897)	Ontario

Medicolegal

Patient May Not Testify in Injury Case to What Physicians Told Him, But May Describe Tests and Treatment to Recover Damages for Pain Caused by Same—Duty of Injured Person

The Court of Appeals of Kentucky says, in Louisville & Nashville Railroad Co. vs. Lynch (126 S. W. R., 362), a personal injury case brought by the latter party, that it was violative of one of the fundamental principles or rules governing the introduction of evidence to permit the plaintiff to testify as to what his physicians had told him. If he wanted the benefit of their testimony, he was entitled to have it either in the shape of direct evidence, given by the physicians before the jury, or he might have taken their depositions. By pursuing either of these methods he could have obtained the benefit of the physicians' investigation of his case and their testimony as to the nature and extent of his injury; but in no event was he entitled to have given to the jury, as substantive evidence, what the physicians said to him relative thereto.

While, however, it was not proper for the plaintiff to testify to what the physicians told him concerning his case, he would necessarily have to describe somewhat in detail the various tests to which he was subjected by them in their efforts to determine the extent of his injury and the probable chance of his recovery, and if this treatment or examination, made necessary in order to enable them to intelligently treat him, caused him pain and suffering, the court sees no good reason why he might not have the jury consider this as going to make up a part of the pain and suffering caused by the injury. If, through the negligence of the defendant railroad company, he was injured, then he was entitled to recover for all pain and suffering which he endured as the direct and proximate result of such injury; and, so long as the physicians employed possessed that degree of skill and proficiency in their profession usually possessed by the average practitioners in their locality, the defendant company, if primary liable, was answerable for any pain and suffering produced by them in their efforts to locate the injury and the extent thereof, even though the methods employed were not the most approved or the tests applied not the latest. He must use all reasonable means to effect his recovery, and must submit to such examination as was necessary to enable his physicians to locate the trouble and know how to treat it; and, as any pain produced by this examination was directly traceable to the negligence through the injury, it could not be dissociated from it. It not infrequently happens that the negligent or wrongful act producing the injury is followed by no immediate pain or suffering; but the treatment of the injury is attended with great pain, as in the case of gunshot wounds. When shot, the victim feels only a slight stinging sensation; but when the surgeon probes the wound to ascertain the course of the bullet, in order to determine what to do, great pain is frequently produced, all of which is directly traceable to the wrongful or negligent act—the shooting. Of course, the defendant would not be liable for suffering produced by the tortious or wrongful act of a physician not engaged in an honest effort to ascertain the seat of the patient's trouble with a view of bettering his condition if possible.

The court concludes that it was entirely proper for the plaintiff to describe the various treatments to which he was subjected so far as it was necessary for him to do so in order to properly bring before the jury the effects of such treatment on him, as to producing pain, etc. Beyond this he should not be permitted to testify concerning the treatment, but the minute descriptions of the various tests to which he was subjected and the treatment which he underwent must be left to the physicians who applied and administered same. They might go into detail in order to demonstrate, if possible, to the jury, the nature and extent of the plaintiff's injury, and the possibility or probability of his recovery.

Cases in which it was simply held that the defendant was not liable for any tortious or wrongful act of the physician where it had exercised reasonable care to select one of average skill and ability in his profession did not militate against

the position taken in this case that, the pain and suffering produced being only such as naturally flowed from the treatment regarded as necessary, it was proper for the jury to consider same.

When Ordering of Physical Examination is not Authorized

The First Appellate Division of the Supreme Court of New York says that the case, Smyth vs. Lichtenstein (122 N. Y. S., 74), was brought to recover damages for alleged indignities and assault, and that the burden of the complaint consisted of the indignities to which the plaintiff alleged she was subjected. The defendant procured an order of court requiring the plaintiff to submit to a physical examination as an adverse witness. No necessity for a physical examination was shown. It was apparent from the moving papers that the purpose of the defendant was, not to obtain evidence of the physical injuries alleged to have been suffered as the result of his assault, but to inquire into the previous history and physical condition of the plaintiff. If an examination for such purpose could ever be permitted, the affidavits on which it was asked were insufficient in this case. The order for the examination in this case did not come fairly within the intent of section 273 of the New York Code of Civil Procedure, which provides that in actions to recover damages for personal injuries the defendant is entitled to an order requiring the plaintiff to submit to a physical examination by one or more physicians or surgeons to be designated by the court or judge, where the defendant shall present to the court or judge satisfactory evidence that he is ignorant of the nature and extent of the injuries complained of. But a dissenting opinion of two members of the court suggests that a court has no right to refuse to enforce this mandatory provision because it thinks that the purpose of the defendant is not to obtain evidence of physical injuries alleged to have been suffered as the result of an assault, but to inquire into the previous history and physical condition of the plaintiff.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Medical Record, New York

August 20

1 *The Influence of the Use of the Automobile on the Upper Air Passages. D. B. Delevan, New York.
2 First Aid to the Insane, and Psychopathic Wards. A. W. Ferris, New York.
3 *Is Mercury A Specific in Pulmonary Tuberculosis? W. N. Beggs, Denver
4 Hyperchlorhydria and Abdominal and Pelvic Surgery. J. H. Carstens, Detroit.
5 *Is Koch's Bacillus the Cause of Cancer? T. G. McConkey, San Francisco.
6 The Pathology of Multiple Adenomata of the Rectum. J. M. Lynch, New York.

1. **Influence of the Use of the Automobile on the Upper Air Passages.**—Delevan claims that theoretically respiratory diseases should be much increased by motoring, but that practically they are not. However, acute catarrhal states of the ears and air passages and advanced tuberculosis with fever, should contraindicate motoring, which properly used in suitable cases is a valuable therapeutic agent. We need good roads, well-paved streets free from dust, and enforcement of laws against smoke and fumes, such as are found in all European cities.

3. **Mercury in Tuberculosis.**—Beggs does not consider mercury a specific for pulmonary tuberculosis. It is valuable in certain cases, especially when there has been a specific taint. In most cases improvement is subjective, with very slow improvement in the physical signs. When syphilis is not present, he believes that its value is due to the tonic effects of the drug, its beneficial effect on digestion or the psychic effect of the treatment.

5. **Koch's Bacillus Cause of Cancer.**—McConkey states his belief that the tubercle bacillus is the cause of cancer. It causes normal tissue cells to take on the habit of proliferation, and supplies the missing factor in the etiology of cancer. In the young or robust this cell proliferation is checked by the defensive reaction of the body, and the tubercle is formed by encapsulation. But if the defense reaction is delayed or prevented, as in later life, encapsulation not taking place, the proliferation of cells goes on to the formation of a new growth. The habit of growth in the cells replaces the habit of work.

New York Medical Journal

August 20

7 Lessons for the Athlete in the Jeffries-Johnson Battle. G. F. Lydston, Chicago.
8 Atony of the Stomach. J. W. Weinstein, New York.
9 *Existing Theories and the Presentation of a New Theory of the Etiology of Achylia Gastrica. G. E. Barnes, Herkimer, N. Y.
10 *Blood-Pressure and Uranalysis in Chronic Nephritis. H. B. Mills, Philadelphia.
11 Ophthalmic Studies in Chronic Interstitial Nephritis. L. C. Peter, Philadelphia.
12 Resistance of the Spirochæta Lymphatica to Antiformin. F. Proescher, Pittsburg.
13 Vincent's Angina. A. M. MacWhinnie, Seattle, Wash.
14 Vitiligo with a History of Heredity. E. H. Marsh, Brooklyn.
15 Dioxydu-amido-arsenobenzol or "606;" Ehrlich's Newest Remedy for Syphilis. S. J. Meltzer, New York.

9. **Achylia Gastrica.**—In Barnes' opinion, the so-called primary form of atrophy or achylia gastrica cannot be idiopathic, inherited, congenital or result from a congenital predisposition. He believes that achylia gastrica is caused by a lesion of the secretory axons of the vagus nerves, a theory which best explains, he thinks, all the chemical and microscopic conditions and all the symptoms of the disease.

10. **Blood-Pressure and Urinalyses in Chronic Nephritis.**—The objects of Mills' paper are: To call attention to the frequency and importance of the relationship existing between urea elimination and blood-pressure; to urge the more frequent microscopic examination of the urine in the absence of albumin; to make the urea estimation a regular procedure in urinalyses; to urge the more universal employment of the blood-pressure test in the diagnosis and treatment of disease, especially the various toxemias; to stimulate comparative studies with the view and in the hope that, on being able to determine the real value of the blood-pressure test, both singly and relatively, we may thus secure an aid to the earlier diagnosis of conditions present than would be possible by the most careful physical examination and urinalysis.

Boston Medical and Surgical Journal

August 18

16 The Experimental Basis for Vaccine Therapy. T. Smith, Boston.
17 *Importance of Determining the Potency of Digitalis Preparations. J. H. Pratt, Boston.
18 *The Therapeutic Use of Ascitic Fluid: A Preliminary Communication. T. Leary, and R. W. Hastings, Boston.
19 Medical Social Service. W. R. Woodbury, Boston.
20 The Meteorologic and Hygienic Aspects of the Floods in France in 1910. G. Hinsdale, Hot Springs, Va.

17. **Digitalis Preparations.**—Pratt examined many specimens of digitalis—both leaves and powder—and found that most of them, at least the leaves, were only slightly active or inert. He advises that only the powder, carefully tested, be used, as that is the form in which the drug retains the greatest physiologic activity.

18. **Therapeutic Use of Ascitic Fluid.**—Leary and Hastings state that they have had excellent results in the treatment of intractable cases of marasmus in infants by means of ascitic fluid, one ounce being injected daily for a period of varying duration. Twelve such cases are reported.

Lancet-Clinic, Cincinnati

August 6

21 A Medical Course in the Practice and Theory of Life-Insurance Examination as Taught in the University of Louisville. W. E. Grant, Louisville.
22 Preparation, Technic and Postoperative Treatment of Emergency Cases. L. G. Bowers, Dayton, O.

Kentucky Medical Journal, Bowling Green

August 1

23 Pellagra in Perryville. H. M. Pittman, Perryville.
24 A Kentucky "Lunger's" Idea of the "Bugs." H. C. Caseldine, Albuquerque, New Mex.
25 Management of Some Communicable Diseases. R. L. Ford, Livermore.
26 Infant Foods and Infant Feeding. W. A. McKenney, Falmouth.
27 Diagnostic Value of Abdominal Pain. A. L. Beckett, Foster.
28 The Tongue. C. Graham, Henderson.

29 Partial Inversion of the Uterus. L. G. Contri, Milton.
30 Osteomyelitis. J. R. Crittenden, Gordonville.
31 Puerperal Eclampsia. J. J. Wakefield, Bloomfield.
32 Justifiable Abortions. W. L. Heizer, New Haven.

Illinois Medical Journal, Springfield

August

33 Pellagra: With Special Reference to Etiology and Diagnosis. G. W. Webster, Chicago.
34 *Diabetic Obiter Dicta. S. T. Robinson, Edwardsville.
35 Borderline Psychoneuroses. E. L. Crouch, Jacksonville.
36 *Prevention and Treatment of Insanity. E. Cohn, Anna.
37 *Study of Mental Disorders. H. D. Singer, Kankakee.
38 Insanity. S. Dods, Cairo.
39 The Nursing Spirit. W. C. Graves.
40 Splenectomy in Relation to Union in Fractures. A. B. Kanavel, Chicago.
41 Fractures of the Mandible. T. L. Gilmer, Chicago.
42 Hydrotherapy in Acute Diseases. S. Baruch, New York.

34. Abstracted in THE JOURNAL, May 28, 1910, p. 1808.

36, 37. Abstracted in THE JOURNAL, June 4, 1910, p. 1893.

Archives of Internal Medicine, Chicago

August

43 *The Control of Typhoid Fever in City and Country. W. R. Stokes, and W. F. Hachtel, Baltimore.
44 *The Type of Infantilism in Uncinariasis. I. I. Lemann, New Orleans.
45 *Trophoneurotic Changes in Bones and Joints in Leprosy. F. Harbitz, Christiania, Norway.
46 Serotherapy in Purpura Hemorrhagica. F. M. Class, New York.
47 *Hodgkin's Disease and Certain Allied Conditions. H. T. Karsner, Philadelphia.
48 *Auscultatory Blood-Pressure Determinations. J. C. Gittings, Philadelphia.
49 Specificity of the Noguchi Modification of the Wassermann Reaction. D. J. Kaliski, New York.
50 *Experimental Conditions of Low Blood-Pressure of Non-Traumatic Origin. R. M. Pearce and A. B. Eisenbrey, New York.

43. **Control of Typhoid.**—The modification of Hess' medium employed by Stokes and Hachtel consists in the addition of 6 instead of 4.5 gm. of agar, and also adding 1 per cent. of lactose and 5 per cent. of glycerin. The larger quantity of agar is added, since glycerin always increases the fluidity of a medium. A most important point is to color the medium by means of a 1 per cent. solution of azolitmin powder dissolved in boiling water after the reaction has been corrected to the neutral point. This medium is then used as a plate culture for water, feces, oysters, blood-cultures and urine. In plating out stools and urine, much time is saved, as the B. alkaligenes forms a typical blue colony, while that of *B. typhosus* is red. Both of these colonies show the typical concentric zone. The colon bacillus is almost always small, concentrated, and forms a superficial moist red colony which bears no resemblance whatever to the much larger, spreading typhoid colony.

44. **Infantilism in Uncinariasis.**—Lemann reports in detail the exact study of the grade of development in a case of hookworm disease and, by contrasting it with other types of infantilism, endeavors to fix its classification. He says that the infantilism of uncinariasis has much in common with infantilism from certain other causes. On the other hand, there are some forms of arrested development with which it stands in strong contrast and with which it is likely to be confused. Such types are, for example, the achondroplastic dwarf, the mongolian idiot, the rachitic dwarf. From the achondroplastic dwarf Lemann's patient is readily distinguished by the absence of the characteristic lack of proportion between the lengths of the extremities and that of the trunk. Besides, there is no trident hand, no bowing of the long bones, no decentralization of the umbilicus, no prognathism, as there usually is in achondroplasia. The genitalia share in the retardation, while in achondroplasia they correspond in size and development to the true stage of the individual. The skiagraphs of the hookworm dwarf show none of the cartilage changes in the achondroplastic.

The hookworm dwarf has equally as little in common with the rachitic dwarf. In rickets the bone shadow is paler than normal and the medullary canal is larger, making the cancellous tissue smaller. Hence, there is a bending and bowing of the long bones. The ends of the long bones are enlarged and there is irregular cartilaginous development of the epiphyses. In addition, there is an unduly large skull, squared and frequently "bossed." None of these features are present in the hookworm dwarf. But there is a masked cretin, the dysthyroid or hypothroid infantile (type Brissaud) who may have had a much closer resemblance to the hookworm patient, Lemann says. In both there is a simple retardation of the development in general, involving not only the skeleton, but the genitals and the secondary sexual characteristics; in both there may be a dry skin with dry, harsh, scanty hair. But even the masked cretin, fairly intelligent, though he may be, has usually enough of the characteristics of the cretin, namely, the round full face with the thick lips, small nose and the thick skin, to distinguish him from the patient of the type described by Lemann.

45. **Bones and Joints in Leprosy.**—The material reported by Harbitz was obtained from patients who had suffered from leprosy for from 15 to 67 years, during most of which time they had been under observation in leprosy hospitals. There is an atrophy of the bones of the hands and feet which may proceed to such a degree that certain bones finally entirely disappear. The atrophy principally affects the most distal bones, the phalanges, metacarpals and metatarsals; it is little pronounced in the tarsus and carpus. The bones may atrophy in their entirety, though sometimes more so in the shaft, and become thin and brittle, but their shape is preserved. This variety resembles the so-called atrophy of disuse, though the bones, generally, are somewhat decreased in size. In the more characteristic form, the atrophy is concentric and chiefly involves the most peripheral parts of the phalanges, metacarpal and metatarsal bones. The distal heads of the metacarpal and metatarsal bones usually disappear, while at their base the bones preserve their usual width and thickness. The surface is generally smooth. The shortening of the metacarpal and metatarsal bones may be very considerable and most pronounced either in those on the outside or those on the inside. It may be so marked that the length is only half the normal one, or even less. The phalanges atrophy in a similar manner, and become very thin, pointed anteriorly and porous. Finally, only disconnected remnants are left, which ultimately may be entirely absorbed so that the toes become shapeless lumps without any bony framework.

In the joints various changes are also seen, on the whole, resembling those of arthritis deformans. Especially in the joints of the tarsus there is a form of chronic inflammation of the joint capsules with the picture of pronounced proliferating synovitis and serous effusion; at the same time, the articular ends show changes, such as atrophy of cartilage and bone, or proliferative alterations in the form of nodular projections, osteophytes, etc. The osseous substance, as a whole, in most cases, is the seat of marked osteoporosis. The tarsal bones become brittle and often are squeezed together to form thin plates of bone. Similar signs of chronic joint disease are seen in atrophic, leprous hands, but less frequently and less prominently. The question arises whether this peculiar bone atrophy is specific, and directly due to leprous neuritis, or if it can be satisfactorily explained in some other manner. Harbitz believes that there is no good reason for doubting that this bone atrophy is really of neuropathic origin, and thinks that everything seems to point to leprous interstitial neuritis as the cause.

47. **Hodgkin's Disease and Certain Allied Conditions.**—The review of the clinical histories of a number of cases lead Karsner to conclude that Hodgkin's disease is a distinct pathologic entity, which may produce or be accompanied by high-grade anemia, usually of the secondary type, occasionally of pernicious type. The presence of histo-eosinophilia is not of great diagnostic significance, and surgical removal and competent examination of the involved lymph nodes may lead to an accurate diagnosis. Although tuberculosis of the lymph nodes and Hodgkin's disease may occur coincidently, tuberculous lymphadenitis may present a histologic picture somewhat confusing with that of Hodgkin's disease. The giant cells of this form of tuberculosis differ from those of Hodgkin's disease, in that the former show relatively solid nuclei, and the latter distinctly vesicular nuclei. Pending the discovery of the essential nature of the disease, it may be said

that Hodgkin's disease, a chronic granulomatous inflammatory process, may undergo transformation with assumption of malignant characters.

48. **Auscultatory Blood-Pressure Determinations.**—In 61 cases examined by Gittings the auscultatory maximum averaged 16.7 mm. higher than that determined by palpation. In 2 cases the reverse occurred, the palpatory maximum being higher than the auscultatory. In 1 case the difference was only 2 mm. and in the other 27 mm. In 41 cases diastole, as determined by auscultation, averaged 15.5 mm. lower than that determined by the visual method. In 5 cases diastole by auscultation averaged 7.7 mm. higher than that by the visual method. In 2 cases the results were equal. In 1 case diastole could not be determined by auscultation. In 11 cases diastole could not be determined by inspection. The maximum pressure being higher by the auscultatory method and the minimum being lower, it follows that the blood-pressure is greater in the auscultatory than in the visual method.

50. **Experimental Conditions of Low Blood-Pressure.**—The study of experimental conditions of low blood-pressure by Pearce and Eisenbrey has been limited, for the most part, to conditions of shock due to traumatism, thermic influences or exposure, and aside from the pharmacologic investigations of the mode of action of certain substances, such as arsenic, but few attempts to study experimentally low blood-pressure due to toxic agents have been made. The authors found that anaphylactic shock and peptone intoxication are characterized by conditions of low blood-pressure very similar to those seen in shock and collapse, and as they are produced without trauma or other factors usually concerned in the etiology of surgical shock, are of interest in the study of conditions of shock occurring in medical as contracted with surgical practice. Both conditions are characterized by a fall in blood-pressure to a level of 20 to 30 mm. Hg, which is prolonged in anaphylactic shock, but tends to relatively rapid recovery in peptone intoxication. In both conditions there is extreme congestion of the large venous trunks of the splanchnic area with a coincident medullary anemia. The respiration is not altered, except in so far as it is affected by the anemia of the medullary centers; the heart shows no initial changes, the low pulse pressure being due apparently to the small amount of blood passing through it. Physiologic studies having for their object the determination of the mechanism by which the low pressure is caused, demonstrate that the condition is essentially a peripheral vasomotor paralysis. Pharmacologic studies indicate that the effect is on the nerve-endings rather than on the muscle. With independent cerebral transfusion the recovery from low pressure is more rapid than in the intact animal. This is true, also, when an animal is transfused by carotid anastomosis, and recovery is especially satisfactory when the transfusion is accompanied by simultaneous bleeding from the femoral vein.

Indications for treatment, therefore, appear to be (1) relief of splanchnic congestion, and (2) increase of volume of blood to the heart and medulla. Cardiac stimulants alone, or salt solution or adrenalin alone, cannot bring about a permanent improvement. According to the results, the treatment of this condition, which, for want of a better name, may be called toxic shock, is not essentially different from that employed in traumatic shock.

American Journal of Surgery, New York

August

51 Plea for Conservatism in Some Gynecologic Conditions. J. P. Glynn, Brooklyn.
52 Hemorrhoids. J. M. Lynch, New York.
53 Fractures of the Spine. C. Sawyer, Marion, Ohio.
54 Local Anesthesia. A. E. Hertzler, Kansas City.
55 The Open-Air Treatment of Burns. D. St. John, Hackensack, N. J.
56 Rapid Synchronous Double Amputations: Eight Cases with Seven Recoveries. Cuddeback, Port Jervis, N. Y.
57 Cholelithiasis in a Patient Twenty-one years of Age. A. E. Sellenings, New York.

American Medicine, New York

July

58 *Sterilization for the Criminal Unfit. F. W. Robertson, New York City.
59 The Valley of the Shadow of Death—Significance of Mortality Statistics. G. M. Gould, Ithaca, N. Y.
60 Recent War Maneuvres in Massachusetts from a Medical Officer's Standpoint. C. J. Colles, New York City.
61 Hypertrichosis or Hirsutis. A. C. Geyser, New York.

58. Robertson urgently advocates the performance of vasectomy on such individuals as are deemed unfit to propogate.

American Journal of Medical Sciences, Philadelphia

August

62 *Trichinosis. W. G. Thompson, New York.
63 *An Epidemic of Trichinosis. H. Albert, Iowa City.
64 Intestinal Diverticula. J. A. Hartwell and R. L. Cecil, New York.
65 *Skin Rashes in Typhoid. J. Phillips, Cleveland.
66 Extensive Sarcoma of the Heart Involving the Bundle of His. C. F. Martin and O. Klotz, Montreal.
67 *Rheumatic Fever and the Erythema Group of Skin Diseases. O. M. Schloss, New York.
68 Acquired Hemolytic Ictero-Anemia. W. M. Barton, Washington, D. C.
69 *Typhoid Bacillus-Carriers: Their Relation to Public Health. J. P. Simonds, Indianapolis.
70 *Chronic Nephritides due to Acute Systemic Infection. H. Stern, New York.
71 Pernicious Anemia. A. McPhedran, Toronto.
72 Diagnostic Puncture in Tuberculous Abscess. J. K. Young, Philadelphia.
73 Primary Tumor of the Velum: Marked Compression of the Fourth Ventricle. H. Brooks, New York.

62. **Trichinosis.**—According to Thompson, there should be no difficulty in determining promptly a correct diagnosis of trichinosis based on the observation of the following symptoms:

1. Acute onset, usually with vomiting and abdominal cramps.
2. A high grade eosinophilia, invariably present; usually above 30 per cent. and frequently much higher—even above 80 per cent.
3. A high grade of temperature often reaching 104 F. or more, and lasting, in lessening degree, for from 2 to 6 weeks.
4. Puffiness of the eyelids and face, with pains in the eyes occurring in one-fourth of the cases.
5. Dyspnea and diaphragmatic breathing occurring without cyanosis in about one-fourth of the cases.
6. The generalized muscle pains, cramps, soreness, and prostration, causing sometimes deceptive apparent immobility.
7. The sudden occurrence of symmetrical circumscribed corneal hemorrhages in a patient whose blood vessels are not degenerated, should also give rise to a suspicion of trichinosis.

63. **An Epidemic of Trichinosis.**—The infection in the cases reported by Albert occurred from eating boiled ham in a club and in a restaurant. The ham in all cases was obtained from the same packing house, and represented meat which had been inspected. Ten of the cases occurred among students at one boarding club, 3 were young women students who, in company with 3 others, partook of ham sandwiches at a local restaurant, and 1 was a young man (not a student) who obtained ham at the same place. Most of the cases were diagnosed as trichinosis very soon after the beginning of the symptoms. The occurrence of so many cases among the members of the boarding house, the eating of boiled ham, the finding of trichinæ in the ham, together with the characteristic symptoms, made the diagnosis comparatively easy. Some of the cases were considered typhoid, one as rheumatism, and one as disease of the eyes, until the diagnosis became very evident, as determined by an examination of the blood. In no case was a positive Widal reaction obtained. A study of the epidemic reveals two features of special significance—the thermal death point in trichinæ, and the value of eosinophilia in the diagnosis of trichinosis. A temperature of from 170 to 200 F., maintained for from 1 to 6 or more hours, depending on the size of the ham, no doubt destroys the trichinæ in the vast majority of cases. Eosinophilia occurs in practically every case of trichinæ infection, varying ordinarily from 10 to 60 per cent. The highest percentage reported is 86. Eosinophilia makes its appearance with the beginning of the acute muscular symptoms from the seventh to the twelfth day after infection. It is at its highest at the height of the acute muscular symptoms, which is, ordinarily, during the second or third week after infection. After this time it gradually disappears, so that at the end of the second or third month there is usually no increase in the number of these cells. The total leukocyte count is usually, but not invariably, increased in trichinæ infection. The number of neutrophiles is relatively, and sometimes absolutely, diminished during the period of eosinophilia.

65. **Skin Rashes in Typhoid.**—Phillips' observations are based on a review of the literature, and on a study of 1,230 cases of typhoid. Herpes was observed in 12 cases. In 8 it

appeared on the lips during the first week of the disease. In the other 4 cases the hepetic eruption appeared late in the course of typhoid and in various regions of the body. Urticaria was present in 21 cases. In some the urticarial eruption developed as a few scattered wheals on the chest or abdomen, preceding the appearance of rose spots; in other cases it appeared later in the disease. A miliary eruption of sudamina was a very frequent occurrence in the third or fourth week of typhoid, when sweating is profuse. Extensive desquamation of the skin was noted in 83 patients; 7 showed erythema; in 1 it was of the type of erythema multiforme; in 6 purpura was noted; in 4 patients a pemphigoid eruption was present. Two cases of erysipelas occurred in this series; there were 12 cases of bedsores. Under the heading of septic conditions of the skin there were noted in this series 45 cases of furunculosis, 2 of carbuncle, 5 of onychia, 9 of abscess, 1 case of impetigo, and 1 of infected sebaceous cyst of the head. Striæ patellares were noted in 2 cases, one in a woman, aged 42 years, who, when 15 years old, had been afflicted with a severe, prolonged typhoid.

67. **Rheumatic Fever and Erythema.**—The cases recorded by Schloss, examples of the erythema group of skin diseases, occurred in rheumatic subjects or in association with rheumatic fever:

1. Rheumatic fever, purpura; urticaria, angioneurotic edema; erythema simplex; recovery.
2. Rheumatic fever; erythema nodosum; purpura, urticaria; erythema exudativum; intestinal hemorrhage; pericarditis; death on the twenty-first day of the disease.
3. Follicular tonsillitis; erythema multiforme; urticaria; colic; recovery.
4. Tonsillitis; urticaria; erythema nodosum; period of improvement with the occurrance of angioneurotic edema; sudden onset of pericarditis; death.

69. **Typhoid Bacillus-Carriers.**—Simonds believes that there is ample evidence for considering the danger of the spread of typhoid fever by chronic bacillus-carriers as worthy of the attention of health officers; and that epidemics caused by bacillus-carriers are characterized by the occurrence of small groups of cases at intervals of a few months in the immediate vicinity of the carrier, or in the territory supplied by some food product handled by him. The most practical way of reducing the danger to the public from these individuals is by excluding them from work that brings them in contact with food products.

70. **Chronic Nephritides.**—The records of the last 200 cases of chronic nephritis that have come under Stern's observation, give the history of one or more acute infectious diseases at some period during the life of the patients in 192 instances. Among these an acute renal involvement had been positively set up in at least 121 cases. Moreover, the histories following the attack of the infectious disease in 56 or 58 of the remaining cases strongly point to the occurrence of an acute nephritic process. (Among these should be included 4 cases of tuberculosis, 5 of syphilis and 1 of chronic malaria.) Ignoring, however, all the unconfirmed instances, it was found that renal involvement had existed in 62.5 per cent. of the patients who had been acutely infected. The frequency of renal involvement after the various infectious diseases was as follows: Scarlet fever, 38 cases; diphtheria, 35; influenza, 16; pneumonia, 12; measles, 12; typhoid, 6; rheumatic fever, 1; and erysipelas, 1. Of the 200 quoted instances of chronic nephritis, 156 occurred in men and 44 in women. The age of the youngest individual was 8, of the eldest, 64 years. The 121 cases of chronic nephritis furnishing a positive history of acute renal involvement during or after an infectious disease, had ensued in 97 men and 24 women. The ages varied between 8 and 49 years. The time which had elapsed since the occurrence of the acute nephritic state amounted to from 10 months to 26 years. Stern believes we are justified in assuming that kidneys, acutely infected at one time, are thereafter possessed of a lowered degree of resistance in many, and of a diminished functional activity in some of the instances.

Journal of Cutaneous Diseases, New York

July

74 Sporotrichosis in Man. J. N. Hyde and D. J. Davis, Chicago.
75 Therapeutic Use of Refrigeration, Particularly with Solid Carbon Dioxid. W. A. Pusey, Chicago.

New York State Journal of Medicine, New York

August

76 Vertigo—Something of its Varied Origin and Significance. J. E. Sheppard, Brooklyn.
77 *New Methods of Test Meal and Feces Examinations. Their Significance in Clinical Work. A. Bassler, New York.
78 Neurasthenia. F. H. Greene, Poughkeepsie.
79 Exaggerated Fear of the Hospital and Operations. A. H. Traver, Albany.
80 Abnormalities of the Nose and Throat in Relation to Catarrhal Deafness and Tinnitus. H. Hays, New York.
81 *Stretching of the Sciatic Nerve. E. M. Foote, New York.
82 Laryngeal Tuberculosis. A. H. Lavigne, Saranac Lake.
83 Suppurative Appendicitis with Complete Sloughing of Appendix and Fecal Discharge Through Wound for Ten Weeks. G. F. Blauvelt, Nyack.
84 Stuttering. E. W. Scripture, New York.
85 Gas Poisoning. R. W. Van Dyke, Malone.

77. Abstracted in THE JOURNAL, March 5, 1910, p. 815.

81. **Stretching the Sciatic Nerve.**—Instead of the usual longitudinal incision, Foote recommends a transverse incision made at the lower edge of the gluteus muscle, and only two inches in length. Division of the deep fascia—which is here very thin—exposes the transverse lower edge of the gluteus, and the longitudinal outer edge of the biceps muscle. In the angle made by them, the sciatic is readily exposed by a little blunt dissection and brought into view on the finger. The nerve should be stretched by repeated steady pulls on it, until it is plainly elongated. The force exerted should never exceed 50 pounds. An easy way to estimate this is for the surgeon to stand on a small platform scales, while making the traction on the nerve.

American Journal of Obstetrics and Diseases of Women and Children, York, Pa.

August

86 Cancer of the Uterus. I. Levin, New York.
87 What May we not Tell the Community Regarding Cancer? E. C. Savidge, New York.
88 *Postoperative Treatment of Abdominal Section for Pelvic Disease: Special Reference to Early Rising and the Use of Eserin. B. H. Wells, New York.
89 *Present Status of Obstetric Education in Europe and America. F. B. Cragin, J. C. Edgar, New York; C. M. Green, Boston; E. P. Davis, B. C. Hirst, Philadelphia; J. W. Williams, Baltimore, and J. C. Webster, Chicago.
90 Cardiac Lesion Complicating Pregnancy and Labor. E. Sothoron, Washington, D. C.
91 Intussusception. H. J. Morganthaler, Brooklyn.
92 Etappen Treatment of Bow-legs and Knock-knees. C. R. Kepplar, New York.
93 Club-Foot and Manipulative Treatment of the Congenital Type. R. G. Moore, New York City.
94 The Complications and Sequelæ of Diphtheria in Children. J. S. Wall, Washington, D. C.
95 Tolerance of Quinin by Young Children with Malarial Diseases. S. S. Adams, Washington, D. C.
96 Fissure-in-Ano in Children. M. L. Bodkin, Brooklyn.
97 Cholesteatoma: Case in which the Disease Itself Had Done Almost a Complete Radical Mastoid Operation. J. A. MacIsaac, New York.

88, 89. Abstracted in THE JOURNAL, June 11, 1910, p. 1994.

Journal Michigan State Medical Society, Battle Creek

August

98 *Occurrence of *Bacillus Fusiformis* in Membranous Affections of the Throat—Vincent's Angina. M. I. Holm, Lansing.
99 *Transitory Insanity and Its Abuses. C. W. Hitchcock, Detroit.
100 Thrombophlebitis; Its Relation to Phlegmasia Alba Dolens. M. B. Roberts, Hancock.
101 Present Status of Thyroid Surgery. H. D. Purdum, Baltimore.
102 Subphrenic Abscess. F. B. Walker, Detroit.

98. **Vincent's Angina.**—The cases of Vincent's angina reported by Holm were gathered during 1908 and occurred among 265 cases of suspected diphtheria, examined at the laboratory of the Michigan State Board of Health. In all the cases separate examinations were made from swabs and cultures on fresh Loeffler serum. In most of the cases which had been diagnosed as diphtheria on clinical grounds, 2 or more swabs were examined. In no case, however, examined for diagnosis, has a negative finding been followed by a positive. *B. diphtheriæ* was recorded whenever present, regardless of the relative number; other organisms were not recorded, except when proportionately numerous, and then only the predominating organism was mentioned. *B. fusiformis* was recorded only when found by direct smear from the swab to be more numerous than any other.

The total number of cases examined for diagnosis was 265; showing *B. diphtheriæ*, 118; *B. fusiformis*, 73. These 73

cases occurred in 33 males and 40 females. The lowest age given was 2 years and the highest 45, the average being 118 years. A membrane was described in all but 4 cases, involving both tonsils 38, one tonsil 31, and extending to adjacent structures 15. The color of the membrane was given as gray or grayish 41, yellow 9, white 8, grayish yellow 5, greenish yellow 1 and creamy 2. The highest temperature given was 103.6 F., the lowest 98.5 F., the average being about 100.5 F. The clinical diagnosis was given as diphtheria 28, suspicious or questionable 20, tonsillitis 17, Vincent's angina 5, and scarlet fever 1. The cultural results showed streptococci 29, staphylococci 20, *B. diphtheriæ* 14, *M. catarrhalis* 8, pneumococci 1, Hofmann's bacilli 1.

In the entire series of 265 cases, diphtheria was diagnosed on clinical grounds in 99. The bacteriologic examination of these 99 cases showed *B. diphtheriæ* present in 64 cases, absent in 35 cases. Among the 73 cases showing *B. fusiformis*, diphtheria was diagnosed clinically 28 times. The bacteriologic examination of these 28 cases showed *B. diphtheriæ* present in 1, absent in 27. This gives a percentage in the clinical diagnosis of diphtheria in the presence of *B. fusiformis* of 96.4. The cultural results in this series of cases indicate that streptococci and staphylococci are the most usual in cases of Vincent's angina. It should be further noted that in over three-fourths of the cases of pseudodiphtheria, the direct smears from the membrane showed a predominance of *B. fusiformis*.

99. Abstracted in THE JOURNAL, Oct. 9, 1909, pp. 1222, 1224.

Annals of Ophthalmology, St. Louis

July

103 The Pathogeny and Semiology of Pupillary Troubles. Ch. Lafon, Paris, France.
104 Medical Advertising in Remote Times. S. H. Brown, Philadelphia.
105 Sudden Obstruction of the Retinal Circulation. D. F. Harbridge, Philadelphia.
106 Atrophy of the Iris of an Unusual Form. H. G. Goldberg, Philadelphia.
107 Modification of the Scissors Operation for Slitting the Lower Canaliculus. J. W. Charles, St. Louis.
108 Congenital Defect of Abduction Associated with Retraction of the Eyeball. S. H. Brown, Philadelphia.
109 A Modification of the Red-Green Glass Slides of the Ophthalmometer. P. Fridenberg, New York.

West Virginia Medical Journal, Wheeling

August

110 Removal of the Prostate. E. O. Smith, Cincinnati.
111 The Law in Relation to the Physician. A. M. Cunningham, Elkins.
112 Penalty of Death. C. H. Maxwell, Morgantown.
113 Trachoma. T. W. Moore, Huntington.
114 Sexual Excesses. L. B. Rupert, Nuttallsburg.

Annals of Surgery, Philadelphia

August

115 *Benign Bone Cysts, Ostitis Fibrosa, Giant-Cell Sarcoma and Bone Aneurism, of the Long Pipe Bones. J. C. Bloodgood, Baltimore.
116 Neoplasms and Other Tumors Involving the Maxillary Bones. S. L. McCurdy, Pittsburg.
117 Fracture of the Head and Neck of the Radius. R. Hammond, Providence, R. I.
118 Backward Dislocation of the Upper End of the Ulna. J. P. Warbasse, Brooklyn.
119 *Autoplastic Transplantation of Bone. H. H. Janeway, New York.
120 Spontaneous Forward Dislocation of Wrist-Joint. A. C. Stokes, Omaha, Neb.
121 Cystoscopic Examination in Renal Tuberculosis. B. S. Barringer, New York.
122 Cystic Disease of the Breast. W. J. Taylor, Philadelphia.

115. Abstracted in THE JOURNAL, July 2, 1910, p. 45.

119. **Autoplastic Transplantation of Bone.**—For the cure of a recurrent tumor, Janeway resected a portion of the ulna five and one-half inches long, which ran through the center of the growth. A fragment of bone of the same length and three-eighths of an inch wide and one-eighth of an inch thick was chiselled off from the crest of the tibia, together with its adherent periosteum. This was then placed between the two extremities of the ulna remaining and fastened in place with silver wire. The periosteum of the implanted fragment was also sutured to the periosteum of the remaining portions of the ulna. The wound was closed, with the exception of a small drain at each end. In two months' time the patient could freely use the arm for washing clothes at a tub.

New Orleans Medical and Surgical Journal

August

123 The Stools in Infancy. J. L. Morse, Boston.
124 Disease in the Tropics (concluded). C. Wellman, Oakland, Calif.
125 Value of Transfusion in Pellagra. G. J. Winthrop and H. P. Cole, Mobile.
126 Diagnosis of Syphilis by the Method of Complement-Fixation. F. B. Gurd, New Orleans.
127 Anesthesia for Throat Surgery. A. M. Caine, New Orleans.
128 Relation of Patient Anesthetized to the Anesthetic: 1,000 Cases. L. Levy, New Orleans.
129 Etherization. J. C. Bloom, New Orleans.

Denver Medical Times and Utah Medical Journal

August

130 Lichen Planus. A. L. Stubbs, La Junta, Colo.
131 Practical Anesthesia. F. W. Kenney, Denver.
132 The Race Question in America and Criminal Sociology. J. M. Delbeese, Denver.
133 Puerperal Fever. E. I. Rich, Ogden, Utah.
134 Nose and Throat Conditions of Interest to the General Practitioner. R. R. Hampton, Salt Lake City.

Interstate Medical Journal, St. Louis

August

135 A Modern Conception of the Psychoneuroses. E. Jones, Toronto.
136 *Secondary Gastric Manisfestations in Chronic Appendicitis. J. S. Myer, St. Louis.
137 *Treatment of Typhoid. R. W. Wilcox, New York.
138 Operability of Gastric Cancer with a Palpable Tumor. A. E. Taussig, St. Louis.
139 Functional Disorders of the Bladder in the Female Simulating Cystitis. A. Stein, New York.
140 Ephraim McDowell: The Father of Abdominal Surgery. G. Gellhorn, St. Louis.

136. **Chronic Appendicitis.**—Stress is laid by Myer on the following points in arriving at a diagnosis of chronic appendicitis with gastric phenomena: A careful history should be taken with special reference to the previous existence of acute abdominal attacks, perhaps so far back as childhood. Primary gastric diseases should be excluded through a determination of the motility of the stomach, careful and, if necessary, repeated examination of the stomach contents, bearing in mind that there may be coexisting lesions in the stomach and appendix, and that in a small percentage of cases the acidity may be greatly increased—simulating ulcer, may be diminished—arousing fears of carcinoma, but, as a rule, is found within normal limits. In a differential diagnosis careful examination of the feces for blood, and of the urine, and examinations of the blood itself, will often throw light on obscure cases. Pure gastric neuroses, the expression of a neuropathic tendency, though less common than usually supposed, must be excluded, not forgetting, however, that organic lesions may be encountered in neurotic individuals. Especial care must be taken in cases of habitus enteroptoticus (Stiller) not to misinterpret the physical signs often elicited in these cases in both the epigastric and right iliac regions. Through the careful physical examination, other organs, especially the abdominal, must be excluded as a causative factor, not forgetting again that two lesions, such as gallstones and appendicitis, are not uncommon in the same individual. Lastly, there must be a most careful examination of the right iliac region for positive findings, bearing in mind that in exceptional cases of chronic appendicitis no local signs can be elicited. In the examination of the appendix region one or more of the following signs may be present: (a) Local pain on pressure over McBurney's point; (b) pain radiating toward the epigastrium on pressure over the cecum without, perhaps, any pain at the point of pressure; (c) epigastric distress and nausea on pressure in the appendix region; (d) Meltzer's sign, which consists in pain produced through the elevation of the right leg of the patient while exerting pressure over McBurney's point; (e) pressure in the left iliac region or other portions of the lower abdomen may cause pain to radiate to the right iliac region; (f) spasticity of the cecum; (g) borborygmus in the cecal region on manipulation; (h) exceptionally, in very slender individuals, the palpation of the thickened appendix; (i) pain and infiltration on right side occasionally elicited through rectal examination.

137. **Typhoid.**—The plan which has yielded the best results in Wilcox's hands has been the administration of the compound solution of chlorin, U. S. P., in doses of 1 dram every 3 or 4 hours, diluted in at least 2 ounces of water. This can

be given, he states, until all fetor of discharges is lost and until the temperature becomes normal. Wilcox says that with the use of this method (1) chlorin can safely be administered without fear of digestive or other disturbance until bacterial activity in the alimentary tract is markedly inhibited; (2) that under its use the tongue becomes cleaner and appetite and digestion improve, the fever is lower and the stools are devoid of odor save that due to the chlorin; (3) the general health, intellectual processes and nervous conditions improve; (4) the duration of the disease is shortened and the patient usually proceeds to a rapid, full recovery.

Bulletin American Academy of Medicine, Easton, Pa.

August

141 *Providing Situations for, and Otherwise Assisting Homeless Mothers and Their Infants. M. R. Mason, New York.
142 *The Care of Infants Apart From Their Mothers. C. P. Putnam, Boston.
143 *Care of Infants Who Must Be Separated From Their Mothers Because of Some Special Need on the Part of the Child. E. L. Coolidge, New York.
144 *The District Nurses' Contribution to the Reduction of Infant Mortality. L. D. Wald, New York.
145 *The Economic Value of Family Physician Refracting. L. Connor, Detroit.

141 to 144. Abstracted in THE JOURNAL, Dec. 18, 1909, pp. 2125, 2126.

145. Abstracted in THE JOURNAL, April 16, 1910, p. 1333.

Journal Medical Society of New Jersey, Orange

August

146 Osteopathy. N. L. Wilson, Elizabeth.
147 *Empyema. I. H. Hance, Lakewood.
148 *Early Recognition and Diagnosis of Organic Disease of the Nervous System. W. M. Leszynsky, New York.
149 Preventable Infantile Diarrhea. T. W. Bebout, Stirling.

147, 148. Abstracted in THE JOURNAL, Aug. 6, 1910, pp. 525, 526.

Gulf States Journal of Medicine and Surgery and Journal of the Southern Medical Association, Mobile

August

150 *Treatment of Wounds. A. Jacoby, New Orleans.
151 Treatment of Fistulous Tracts, Sinuses and Abscess Cavities by Bismuth-Vaselin Injections. C. R. Andrews, Atlanta.
152 Factors in Shortening the Convalescence of Surgical Patients. H. P. Cole, Mobile.
153 *Dermoid Ovarian Cysts of Unusual Size. E. N. Liell, Jacksonville, Fla.
154 Treatment of Pyosalpinx. R. C. Turck, Jacksonville, Fla.
155 Conservatism in Operation on the Uterine Appendages. L. A. Suggs, Fort Worth, Tex.
156 Surgical Drainage. L. Sexton, New Orleans.
157 Endo-Aneurysmorrhaphy of Popliteal Restorative Types. A. P. Crain, Shreveport.
158 Appendicitis in the Negro. S. T. Barnett, Atlanta.
159 Treatment of Capsular Cataract. W. S. Sims, Jackson, Miss.
160 *Varicocele: Points in Technic of the Operation. J. H. Johns, Atlanta.
161 Surgical Tuberculosis: Special Reference to the Use of Tuberculin in Diagnosis and Treatment. R. T. Taylor, Baltimore.
162 *Traumatic Myositis Ossificans, Limited to a Single Group of Muscles. Operation—Recovery. I. Cohn, New Orleans.
163 Gunshot Wounds of the Intestine. J. D. Bloom, New Orleans.

150. **The Treatment of Wounds.**—Preparatory work of all wounds, Jacoby says, should be similar, and any processes which may suit the personal preference of the surgeon will be equally satisfactory. After suturing the incised wound, he feels that an application of iodin is of value, and that a dressing of balsam of Peru in castor oil will aid in the removal of the gauze and give freedom from pain when the first dressing is applied. The lacerated wound should be swabbed with iodin and then followed by an application of balsam of Peru in castor oil, the dressing to be changed not oftener than every 4 days. The granulating wound requires nothing but a dry piece of gauze, which should not be removed, but left to act as a scab or graft. The surface covered with the gauze should be wiped off with peroxid of hydrogen and dry gauze reapplied. The dressing may be applied under such circumstances as frequently as one wishes, but Jacoby advises that it be done not oftener than once in 4 days, as it inflicts unnecessary traumatism and removes tissue growth. The clean operative wound should be examined in 48 hours and again 2 days later. An infected operative wound should be opened freely, and all gangrenous tissue excised, swabbed with iodin, and packed with balsam of Peru in castor oil dressing. The wound should be dressed daily until the infection is controlled and thereafter every 4 or 5 days. The balsam of Peru in castor oil is 1 to 4 and the iodin used is the strong tincture. In abscess cavities Jacoby uses iodin irrigations, 1 dram to 2 quarts of hot water. The abscess cavity may be packed with the balsam of Peru in castor oil and left alone for 4 or 5 days. For the past year Jacoby has been trying an application of 50 per cent. in alcohol in infected cases with excellent results, but the alcohol solution must be applied daily or the dressing encased in rubber tissue. He believes that it is the ideal dressing in such cases and also in operations on the toes, where infection is liable to occur. It will also serve as an excellent pack in abscess and bone felon cases.

153. **Dermoid Ovarian Cysts of Unusual Size.**—The cases of dermoid ovarian cysts reported by Liell are of interest, not alone because of their enormous size—weighing, respectively, 42, 39 and 32 pounds; but in connection with the singular fact that all 3 were of the left ovary.

160. **Varicocele.**—The technic used by Johns is as follows: After resecting the veins by the "Bennett-Howse" method, a clamp is applied to the scrotum in such a manner as to allow the removal of the redundant portion. Twelve or fourteen silkworm-gut sutures are then introduced through the holes in the clamp, using long, slender, trocar-pointed needles. The ends of these sutures are then gathered into two bundles and clamped with hemostats. An incision is then made through the skin, with a sharp scalpel, about one-eighth of an inch from the clamp, the remaining tissues being cut through with strong scissors curved on the flat. The subcutaneous tissues, consisting of dartos and cremasteric fascia, are then sutured with a No. 0 plain catgut continuous suture, using a small round-pointed fishhook or fistula needle. The first turns of a surgeon's knot are then made in the silkworm gut, and drawn tight. The clamp is then removed, and after waiting a few minutes for the hemorrhage, which always follows removal of the clamp, to cease, the skin edges are brought together with a No. 0 plain catgut continuous suture on a long, straight needle. The silkworm-gut sutures are then adjusted and the knots completed. The reason for waiting to complete the knots is that they may be loosened and any bleeding points, which promise to give trouble, caught and tied. This is rarely necessary, but is very easily done, if need be, as the buried hemostatic suture prevents wide gaping of the wound even if all the silkworm-gut sutures are untied.

162. **Traumatic Myositis Ossificans.**—Following a severe blow on the thigh by a heavy piece of timber, Cohn's patient noticed a hard mass in the "fleshy part" of the thigh. Palpation disclosed a hard mass occupying the anterior and outer aspect of the lower two-thirds of the thigh. A feeling of crepitation was elicited on superficial palpation. The mass was not adherent to the skin. At the operation the mass could easily be felt in the belly of the quadriceps extensor, and covered the anterior aspect of the femur for about 6 inches; the lower limit could be felt about 2 inches above the patella, the outer border extending well beyond the limit of the femur. The mass was closely adherent to the periosteum. Recovery was complete and uneventful.

Albany Medical Annals

August

164 Functions of a County Medical Society. A. MacFarlane, Albany.
165 Fracture of the Lower Jaw. L. Blatner, Albany.
166 Faraday: His Life and Work. W. G. Tucker, Albany.

St. Paul Medical Journal

August

167 Polar Anemia. L. Smit, Bergen, Norway.
168 Pharmacology of the Salicylates. E. Klaveness, Sioux Falls, S. D.
169 The United States Pharmacopeia. P. Bernhart, Sioux Falls, S. D.

Montreal Medical Journal

August

170 Canadian Effort Against Tuberculosis. J. G. Adami, Montreal.
171 *Condition of the Lymphatic Glands as Factor in Diagnosis of Tuberculosis of the Hip and Lower Spine. A. M. Forbes, Montreal.

172 Use of Differential Pressure in the Treatment of Empyema E. M. Von Eberts, Montreal.
173 Reflex Nasal Neuroses. C. M. Stewart, Toronto.
174 Pelvimetry and Abdominal Palpation. H. M. Little, Montreal.
175 Beaumont and Alexis St. Martin. R. Monahan, Montreal.
176 Tachycardia. J. A. Baird. Hemmingford, Quebec, Canada.
177 Human Trypanosomiasis. J. L. Todd, Montreal.
178 Neurasthenic Conditions Referable to the Nose and Throat. W. H. Jamieson, Montreal.
179 *Banana Flour and Plantain Meal for Children Suffering from Diarrhea. A. E. Vipond, Montreal.

171. **The Condition of the Lymphatic Glands.**—In November, 1909, Forbes observed that the deep lymphatic glands in the iliac and inguinal regions were more likely to be enlarged in disease of the spine than in hip disease. He says that in early cases of hip disease it is must unusual to see a bilateral or even an unilateral enlargement of the lymph glands, whereas in lumbar Pott's disease and in tuberculous lesions adjacent to the lumbar region, such a unilateral enlargement is common, and a bilateral enlargement not uncommon in his experience. Five cases are reported illustrating the difficulties of the diagnosis between tuberculosis of the lower vertebræ and hip disease, and suggesting the possibility of the condition of the lymphatic system being a factor in the diagnosis. In all these cases the diagnosis of hip disease had been made.

172. **Differential Pressure in Empyema.**—Von Eberts believes that the widest field for the application of differential pressure is found in the treatment of empyema, where by its means and by the application of a suitable dressing after thoracotomy, the period of the disability may be very greatly curtailed. At the time of operation and at subsequent dressings positive differential pressure is especially suitable, as with a portable apparatus not only hospital patients, but also patients operated on in private homes, may enjoy the benefit of this method of treatment. Following thoracotomy an empyemic cavity remains exposed to atmospheric pressure. In extensive cases the whole lung may be collapsed and may lie in close apposition with the mediastinum. Further, the mediastinum and pericardium are not infrequently displaced toward the sound lung. Under such conditions, each inspiratory act results in the deflection of the mediastinal septum and collapsed lung toward the sound side in response to the negative tension produced on that side during inspiration.

With the use of differential pressure and the application of air-tight dressing, such as the one which von Eberts has devised, not only is the mediastinal deflection reduced, and, the cavity thereby diminished in size, but the air within the abscess cavity becomes negative in tension during inspiration, and, in consequence, the mediastinum and pericardium tend to be further deflected toward the cavity and the collapsed lung to expand in the same direction. An immediate result of such a method of treatment is the prompt relief of the cyanosis. Apart from the curtailment of the period of disability, the absence of odor and of pain and discomfort of prolonged dressings, the earlier restoration of the collapsed lung to its normal respiration activity may remove to a large extent the danger of a subsequent tuberculous infection.

179. **Banana Flour and Plantain Meal as a Food.**—Vipond describes the good results he has obtained from the use of banana flour and plantain meal in cases of diarrhea in infants. He says it is a nourishing and valuable food and one that is easily digested, but not an ideal infant food, as the starch percentage is high and the fat percentage is low; however, it will tide over a critical period. The dextrose and starch in banana flour vary according to the method used in preparing the flour. It has remarkable astringent qualities, he states, as has also the plantain meal, a nice white flour, more palatable, but more difficult to obtain, and more expensive.

Buffalo Medical Journal

August

180 The Prevention and Cure of Disease by the Inclined Desk-Leaf or Drawing Table. G. M. Gould, Ithaca, N. Y.
181 Conference of Ophthalmologists with Organization Officials of Michigan on Family Physician Refracting. L. Connor, Detroit.
182 *Treatment of Surgical Tuberculosis by Vaccines. J. A. MacLeod, and N. K. MacLeod, Buffalo.

182. Abstracted in THE JOURNAL, Feb. 26, 1910, p. 734.

Archives of Diagnosis, New York

July

183 Diagnostic Errors by Bismuth Paste Injections. E. G. Beck, Chicago.
184 *The Dull-Flat Percussion Note: Its Significance in Early Pulmonary Tuberculosis. R. Abrahams, New York.
185 Diagnosis of Bronchial Asthma. T. F. Reilly, New York.
186 An Accurate Method of Estimating the Height of the Liquid in Hydrothorax. J. H. Barach, Pittsburg.
187 Diagnosis of Uncinariasis Infection: Especially Examination of Feces for Eggs of Intestinal Parasites. C. C. Bass, New Orleans.
188 *Recognition of Diplomellituria. H. Stern, New York.
189 The Movable Cecum: Its Demonstration by the Roentgen Rays. G. Schwartz, Vienna, Germany.
190 Color Reaction of Human Feces with Corrosive Sublimate—Acetate Solution: Its Relation to Biliary and Intestinal Function. M. Schott, Cleveland, O.

184. **The Dull-Flat Percussion Note.**—The percussion note described by Abrahams has been and is variously described as "diminished resonance," "relative dulness," "impaired resonance," "wood-like sound," etc., all graphic, says Abrahams, but none to the point. Technically, the dull-flat note is shorter in duration and higher in pitch; its acoustic qualities stand between dulness and flatness, or it is a note which is duller than dull. Abrahams emphasizes the fact that some areas of the lung normally possess dulness on percussion. Those areas are (1) the right apex and a finger's breadth under the right clavicle; (2) the intracapsular space, say from the seventh cervical to the fourth or fifth dorsal vertebra, and (3) in some instances the lower third of the base of the right lung. In the presence of an early infiltration, either of these areas drops its normal dulness and assumes the dull-flat resonance. This change in tone is unmistakable on light percussion. The dull-flat note is also of value in ascertaining the progress of the tuberculous process in any part of the lung. Take, for example, the left apex. Under normal conditions the percussion note of the left apex is pulmonary or vesicular. In the presence of an infiltration the vesicular resonance will change into dulness. Dulness indicates incipiency. By watching the modifying degrees of the dulness in that apex and the eventual change of that note into the dull-flat, one can predict with accuracy the progress that the tuberculous deposit is making. It is evident that whereas lung areas which yield vesicular resonance on percussion may be said to be considerably advanced in tuberculosis when they yield the dull-flat note, areas which are normally characterized by dulness on percussion may be said to be in the incipient stage when they are possessed of the dull-flat sound.

188. **Diplomellituria.**—By diplomellituria Stern understands the contemporaneous or alternate occurrence of diabetic and non-diabetic glycosuria in the same individual. It is the result of two concurrent or intercurrent affections of dissimilar character having the one symptom, glycosuria, in common. The recognition of diplomellituria depends on the alternate prominence of one set of symptoms, including the respective glycosuria.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

August 6

1 The Ethics of Insanity. T. D. Greenlees.
2 Rheumatoid Arthritis. C. J. MacAlister.
3 Cats as Plague Preventers. A. Buchanan.
4 Vicious Circles Associated with Disorders of the Urinary Organs. J. B. Hurry.
5 Treatment of Small-Pox in Red Light and in the Dark. C. H. Würtzen.
6 Recovery from Apparent Arteriosclerosis. W. M. Crofton.

Lancet, London

August 6

7 *Status Lymphaticus in Its Relations to the Use of Anesthetics in Surgery. D. W. Buxton.
8 Removal of the Appendix in the "Quiet" Period. W. H. Battle.
9 Preventive and Administrative Measures for the Control of Tuberculosis in New York City. H. M. Biggs.
10 Incidence of Tuberculosis in Children, with Special Reference to School Attendance. J. E. Squire.
11 Bilharziosis and How to Prevent It. J. F. Allen.
12 *Heart Puncture. J. W. Milne.
13 Serodiagnosis of Hydatid Disease: Fixation of the Complement. K. Eckenstein.

7. **The Status Lymphaticus.**—So far as our knowledge goes at present, Buxton believes we are compelled to admit that the case against anesthetics as the cause of death in status lymphaticus, is not proved. Their danger is probably the same as that incurred by any feeble child or adolescent and not more. The diagnosis of a case of lymphatism would not be a contra-indication to operation or the use of an anesthetic; it should, however, compel us to take special care in the direction of building up the physique of the patient before operation, when this is possible. These cases are not to be undertaken in a light-hearted way, they need the utmost care, experience and special attention, and no one, says Buxton, who values his peace of mind, should embark on the anesthetization in a case of lymphatism without adequate knowledge and skill and more than common experience.

12. **Heart Puncture.**—A girl aged 20 was healthy till the age of 18—two years ago—when she had rheumatic fever and lay ill for 3 months. The heart was damaged and she ever after had a mitral bruit, systolic in time, but with no dilatation and no anasarca. Six months ago she had a recurrence which left the heart still more damaged, and the apex beat was now always in the nipple line and one inch below. She had no evidences of failure till she was taken ill again with a cold and rheumatic pains. In addition to her cardia condition there was well-marked hypostatic engorgement of both lung bases, chiefly on the right side. On May 23, there was dilatation of the heart one inch beyond the nipple to the left, and one inch beyond the right border of the sternum to the right. Milne perceived that heart failure was imminent, and that nothing but a reduction in the volume of the blood could avert death. He therefore proceeded to open the left median basilic vein but no blood flowed. He then opened the right median basilic with a like result. He cut deeper on the left into the brachial artery above its division into the ulnar and radial arteries, and only a feeble trickle of dark blood flowed. During all these manipulations the patient felt no pain, but lay half unconscious, with dilated pupils, cold sweats, cyanosed color and stertorous respiration, while the heart was getting more and more distended and Milne could feel no pulse in the temporals.

Milne then selected the fifth intercostal space, close to the left border of the sternum, as being in the circumstances likely to lie over the right auricle, since the distention had been more and more to the left. Having frozen the spot with ethylchlorid, he inserted a trocar and cannula of about the size of a No. 3 catheter vertically into the heart. Blood immediately flowed of about the color of porter and thick in consistency, and the cannula oscillated with the heart beats through an angle of about 25 degrees, inclining from the original vertical position to this extent to the right. The blood came in jets only when the cannula was vertical—that is, when its point was pulled to the right. Milne drew off 20 ounces and then withdrew the cannula and closed the puncture by acupressure. Almost suddenly the patient revived becoming quite clear and collected; she expressed herself as having felt no pain and as being quite relieved. A small probang was passed down the trachea and took up a lot of mucus. The patient was left in a different state altogether, with no cyanosis to speak of, and the venesections showing blood through their dressings. The pulse at the temporals was fair, the lips were pink, and the pupils normal, and when the sweat was wiped off no more appeared. This was at 3.30 p. m., the puncture having been made at 3.20 p. m. She remained clear and free from pain and distress till 7.20 p. m., when she died. Puncture of the heart thus prolonged life, in Milne's opinion, for four hours after the circulation was so feeble as not only not to make the opened veins bleed, but even the brachial artery was unable to show pressure at all.

Medical Press and Circular, London

August 3

14 Principles of Treatment of Pulmonary Emphysema. W. Ewart.
15 *Evolution of the British Medical Association and Its Work. H. T. Butlin
16 *Recent Progress in Medical Science. J. M. Bruce.
17 *An Unrecognized Form of Malaria. G. LeMoine.
18 Radium Treatment of Cancer. L. Wickham.

17. **Unrecognized Forms of Malaria.**—One of the forms of malaria described by LeMoine is malaria nostras, which he has encountered in the north of France. It is characterized by continuous fever without any marked rise of temperature. It may last for weeks, resembling tuberculosis or mucous fever far more than intermittent fever. LeMoine insists strongly on the presence of signs of consolidation of the right apex in malaria, especially in the latent form. The state of congestion is frequently met and naturally leads one to suspect tuberculosis, it persists for long periods in sufferers from malaria who have returned from the colonies, and is also seen in a milder and less persistent form in malaria nostras.

Medical men practicing in the district of Armentieres long since called attention to a form of malaria in which the symptoms affect a dyspeptic form. The victims gradually lose their appetite and complain of a feeling of oppression after meals, belching and evening vomiting There are true symptoms of dyspepsia, but no treatment is of benefit unless associated with the administration of quinin. In these cases the liver can usually be felt below the ribs, and the spleen can be outlined on percussion. The patients may never have had an acute attack, yet for many years they have been impregnated with the malarial poison. Country practitioners often see patients who have almost constant fever with a tendency to persist for several weeks.

Clinical Journal, London

July 27

19 Sigmoiditis and Proctitis. F. C. Wallis.
20 *Migraine. G. Rankin.
21 Practical Points in the Management of Difficult Labor. H. R. Andrews.

20. **Migraine.**—The following prescriptions have often proved useful in Rankin's practice: (a) chlorid of ammonium, 15 gr.; phenacetin, 10 gr.; codein, 1-3 gr. (to be dispensed either in the form of a powder or of two cachets); (b) antipyrin, 10 gr.; salicylate of soda, 10 gr.; tincture of gelsemium, mxv.; spirits of chloroform, mxx.; water to one ounce; (c) heroin, 1-12 gr.; dilute hydrobromic acid mxxx; citrate of caffein, 5 gr.; compound tincture of cardamom, mxx; chloroform water to one ounce. In the case of all of them directions should be given for a dose to be taken every two hours for three doses; and every four hours thereafter until the pain is relieved. In women when the migrainous attacks recur only at the menstrual times, the use, for a week before each period, of a mixture of chloral hydrate, 10 gr., and bromid of sodium, 20 gr., given 3 times a day, is often successful, he states, in suppressing the attack or in diminishing its severity. When the temporal artery on the affected temple is prominent and throbbing, steady pressure over it may succeed in affording temporary relief.

Journal of Tropical Medicine and Hygiene, London

July 15

22 The Transmission in Nature of *Trypanosoma Gambiense*. G. C. Low.
23 The Spread of Cancer Among the Descendants of the Liberated Africans or Creoles of Sierra Leone. W. Renner.
24 Porocephaliasis in Man. L. W. Sambon.

British Journal of Children's Diseases, London

July

25 Infant Mortality. C. P. LaPage.
26 *Vincent's Angina. J. D. Rolleston.
27 *Bruits Heard Over the Manubrium Sterni in Children. J. E. H. Sawyer.

26. **Vincent's Angina.**—Vincent's angina according to Rolleston is an uncommon disease, occurring in 0.9 per cent. of all cases of sore throat, and in 4.9 per cent. of cases of non-diphtheritic angina. During a five years' period of observation in a hospital population of all ages, the affection was confined to children between 2 and 16 years. No instances of contagion were observed. Its incidence was greatest in spring, least in autumn. It was not found to show any predilection for weakly children or for cases of oral sepsis. There is nothing characteristic in its prodromal symptoms. Rolleston holds that there are not two distinct varieties of Vincent's angina. The ulcerative is merely a later stage of the membranous form. Constitutional symptoms are slight or

absent, but the local affection is more pronounced than in diphtheria. Association with other diseases is uncommon. The prognosis is favorable and complications are infrequent and usually insignificant. Treatment consists in the local application of tincture of iodin or methylene-blue powder. Internal medication is usually unnecessary.

27. **Bruits over Manubrium Sterni.**—The objects of Sawyer's paper are (1) to point out that bruits are very frequently heard on auscultation over the upper part of the sternum in children when the head is bent back so that the face is horizontal, and (2) to endeavor to show how these bruits are produced. Very frequently the bruit is audible on both sides of the neck, and sometimes only on the right side; so it is difficult to conceive that if the bruit were produced in the left innominate vein it could be conducted not only backward to the left, but also along the left innominate vein to the right innominate vein, and then upward into the right side of the neck. It seems, therefore, most probable that the bruit arises in one or both internal juglar veins and is conducted downward to the sternum. Granting that the bruits arise in the internal jugular veins it is easy to understand how they are produced. Bending the head backward puts these veins on the stretch, and causes them to be compressed against the transverse processes of the lower cervical vertbræ. The stretching of the vein and its compression must diminish the size of its lumen over a certain portion and therefore a condition is produced in the vein which is likely to give rise to a bruit. That the bruit is produced in this way Sawyer claims is also supported by the fact that when the chin is directed to one side a bruit often appears over the side which is on the stretch. The venous hum over the sternum in children with the head thrown back, appears, from these observations, to be a normal condition in the great majority of cases, and should be considered to be of no importance unless accompanied by physical signs of compression.

Practitioner, London

August

28 Congenital Hematocolpos, Hematometra and Hematosalpinx: Case Requiring Laparotomy. A. H. N. Lewers.
29 The Present Position of Cesarean Section in Obstetrics. T. G. Stevens.
30 The Relief of Pain in Tuberculous Disease of the Larynx. W. G. Howarth.
31 Postoperative Shock: Its Prevention and Treatment. H. H. Brown.
32 Mucous Polypus of the Nose and Its Treatment. D. McKenzie.
33 Esophageal Diverticula. W. Robinson.
34 Treatment and Prevention of Cubitus Varus and Valgus. A. MacLennan.
35 Examination of Cerebrospinal Fluid in General Practice. J. R. Collins.
36 The Increasing Difficulty of the Diphtheria Carrier. A. D. Edwards.
37 The Etiology and Pathology of Infantile Paralysis. F. Hernaman-Johnson.
38 The Element of Time in Midwifery Practice. J. D. Slight.
39 The *Ars Medendi* of Shakespeare. T. H. Mitchell.

Journal of Obstetrics and Gynecology of the British Empire, London

July

40 *After-Results of Abdominal Operations on the Pelvic Organs Based on a Series of 1,000 Operations. A. E. Giles.
41 *The Life History of Fibromyomata of the Uterus. A. J. Wallace.
42 *B. Coli* Infection of Urinary Tract Complicating Pregnancy. E. N. Burnett.

40. **After-results of Abdominal Operations.**—With regard to general health after abdominal operations, Giles found that 90 per cent. of the patients were better than they were before operation, 72 per cent. being in quite good health. About 6 per cent. were either worse or at least no better, in many cases from causes quite independent of the operation; and a further 4 per cent. had been much better for a time, and had suffered lately from ill-health due to local or general causes. The period of invalidism after abdominal operations is limited to about 3 months in 60 per cent. of the cases; of the remaining 40 per cent., about 25 per cent. (10 per cent. of the whole) cease to be invalids by the end of the first year while 75 per cent. (30 per cent. of the whole) remain either invalids or semi-invalids. The age of the patient has a marked influence; the younger the patient, other things being equal, the quicker the convalescence. The severity of the operation does not appear to have any direct relation to the rapidity of the convalescence.

The memory appears to be affected in about 25 per cent. after abdominal operations; further deterioration of memory appears to be directly proportioned to the duration of the operation.

Sixty-four patients out of the 770 required further abdominal operations. About 3 per cent. of the secondary operations were necessitated by direct sequelæ of the operation, and of these the cases of inflammatory disease of the appendages supplied the largest proportion; 6 were necessitated by recurrence of uterine displacements; and 34 operations were required for conditions independent of the first operation. The risk of subsequent independent conditions requiring operation is greatest after unilateral salpingo-oöphorectomies, where it amounted to 9.5 per cent. The chances of pregnancy following unilateral salpingo-oöphorectomy and conservative operations on the uterus are good; as 33 per cent. of married women under 40 among these patients became pregnant afterward; 73 of the uncompleted pregnancies went to full term; there were 8 extrauterine pregnancies, and 7 were pregnant when last seen. Of 60 labors 55 were normal, and 5 had complications that had no reference to the operation; the chances of labor being normal after these operations are, therefore, just as good as in the case with patients who have had no such operations.

Eighty-eight per cent. of the patients had no trouble at all afterward with the scar; 77 per cent. had stitch abscesses, and 3.6 per cent. developed hernia of the scar. The tendency to both complications is markedly greater after operations for inflammatory disease of the appendages; 90 to 93 per cent. of the "clean" cases had no subsequent trouble. The tendency to stitch abscess is diminished by modern improved methods, and particularly by the use of sterilized rubber gloves during operations.

41. **Life History of Fibromyomata of Uterus.**—Wallace relates the histories of 10 cases of "fibroids" of the uterus observed over periods of time varying from 3¼ to 28 years. Five patients were single and nulliparous, 1 a barren widow, 1 had had an abortion prior to the appearance of the tumor, 1 had had one child, and 2 had had several children. In one case the main tumor was an interstitial one throughout, but there were two small growths which were either subperitoneal or were covered only by a thin muscular layer. In 4 cases the primary form was interstitial; in the formal form all of these became sessile subperitoneal. In 2 cases there have been throughout multiple interstitial or subserous growths. Thus in 5 cases the initial interstitial form was gradually replaced by the subserous.

In one case the precise variety is a matter of doubt. Growth of the tumor to the maximum was observed in 4 cases. Incomplete shrinking occurred in 8 out of 10 cases. In 1 case disappearance occurred before the menopause had taken place, but the latter must undoubtedly have commenced to exercise an influence, since menstruation, although profuse, had become irregular. Valvular disease existed in 3 cases; dilatation and hypertrophy of the left heart in 4. High pulse tension occurred only in 2 cases, in both of which it was associated with cardiac disease, and in both renal disease was absent. In one case the high pulse tension preceded the appearance of the fibroid, and coincided with the enlargement of the thyroid gland; it was temporary, and probably had no connection with either. Of 10 patients, 2 had fairly good health up to the time of the menopause, and two moderately good. The other 6 had either poor or indifferent health. After the menopause the health was good in 4, but of these 1 had lost the tumor. Another who has also lost the tumor enjoys good health, but she has not yet attained the menopause. Of the remaining 5, 1 died after a long period of ill-health and suffering; 1 is still troubled by abdominal pain; 1 leads a life of invalidism, another of semi-invalidism; while the last obtains such enjoyment from life as a sightless old age can offer.

Wallace believes that this constitutes a serious indictment of the application of palliative treatment to cases of uterine

fibromyomata. From the clinical side, 9 of the cases related illustrate the trials and discomforts endured by the lifelong possessors of these tumors. Viewed from this standpoint alone, palliative treatment appears inapplicable to cases in which fibroids cause symptoms and the condition of the patient's general health justifies operation.

Indian Medical Gazette, Calcutta

July

43 Sclerectomy. F. P. Maynard.
44 Simple Trephining in the Operative Treatment of Glaucoma. R. H. Elliot.
45 Extraction of Cataract in the Capsule. H. Smith.
46 Smith's Operation for Cataract: Two New Instruments. W. J. Wanless.
47 Tuberculosis of the Lung in the Hughli Jail and the Hughli Police. D. G. Crawford.

Annales de l'Institut Pasteur, Paris

June, XXIV, No. 6, pp. 433-527

48 The Neutral Sugar of Crude Cane Sugar. (Recherches sur le sucre neutre des sucres bruts de canne.) E. Dubourg.
49 Serodiagnosis and Variability of Microbes According to Medium on which They are Cultivated. J. Bordet and Sleeswyk.
50 Influence of Boric Acid on Diastasic Action. H. Agulhon.
51 Research on Infection of Guinea-Pig with Microbe of Preisz-Nocard. L. Panisset.

Annales de Médecine et Chirurgie Infantiles, Paris

July 15, XIV, No. 14, pp. 437-464

52 Out-Door Schools. (Les cures d'air: les écoles de plein air.) P. Vigne.
53 Pseudo-Membranous Sore Throat. (Le diagnostic des angines à fausses membranes.) Wicart.
54 *Bloodless Reduction of Congenital Dislocation of the Hip Joint. ("Mon experience" du traitement de la luxation congénitale de la hanche par la méthode non sanglante.) P. Redard.

54. Bloodless Reduction of Congenital Dislocation of the Hip Joint.—Redard in his experience with 800 cases found that bloodless methods gave uniformly better results, his later series showing from 85 to 90 per cent. of perfect functional results for unilateral dislocation and 30 per cent. for the bilateral. He commences treatment as soon as the dislocation is recognized and the child is beginning to keep itself clean. After the age of 7 the results are dubious and 10 is the extreme limit for bloodless measures. There is no uniform technic; he aims to immobilize the limb in the position in which the joint seems most solid, and varies the duration of the immobilization according to the degree of stability; five or six months is the usual limit.

Bulletin de l'Académie de Médecine, Paris

July 19, LXXIV, No. 28, pp. 81-107

55 Ultimate Prognosis of Dislocation of the Shoulder. (Du pronostic éloigné des luxations de l'épaule.) Le Dentu.
56 Migration of Calculi Through Walls of Kidney Pelvis and Ureter. (De la migration des calculs du bassinet et de l'uretère par effraction des parois.) T. Tuffier and Le Dentu.
57 Further Experimental Research on Variola-Vaccinia. Keisch and others.
58 Cholera in Europe Since 1904. A. Chantemesse and F. Borel.
59 Electrocardiograms and Graphic Registration of the Heart Sounds. (Les électrocardiogrammes et l'enregistrement des bruits de cœur.) G. Weiss and L. Bull.

Presse Médicale, Paris

July 30, XVIII, No. 61, pp. 585-592

60 Accident Insurance and the Preceding Condition. (Sur la question de l'état antérieur.) L. Imbert.
61 Modified Technic for Preparing Certain Drugs. (Une nouvelle forme galénique de préparations pharmaceutiques.) E. Perrot.

Semaine Médicale, Paris

August 3, XXX, No. 31, pp. 361-372

62 *Salt in Treatment of Eclampsia. (Chloruration et éclampsie.) A. Le Play.

62. Salt in Pregnancy Nephritis and Eclampsia.—The danger of intravenous injection of salt solution in eclampsia has been recently suggested by Sippel but Le Play gives the details of 8 cases of pregnancy nephritis and 2 of eclampsia in which from 5 to 13 gm. (80 to 200 grains) were given systematically every other day and apparently with the best therapeutic results. The aim was to induce a flow of fluid into the alimentary canal, thus reducing the blood pressure and at the same time washing out into the digestive tract a quantity of toxic products which could then be harmlessly eliminated. There was no untoward by-effect in any case and the general condition seemed to improve.

Archiv für Kinderheilkunde, Stuttgart

LIII, Nos. 4-6, pp. 241-481. Last indexed June 18, p. 2099

63 Study of Human Milk, Especially the Secretion of Fat in the Milk. (Ueber einige Fragen der Frauenmilchsecretion, insbesondere über die Secretion des Milchfettes.) S. Engel.
64 The Biologic Properties of Colostral and Mastitic Milk. (Die biologischen Eigenschaften der Colostral und Mastitismilch.) M. Sassenhagen.
65 *Blood Pressure in Children. (Der Blutdruck im Kindesalter.) Mme. P. Wolfensohn-Kriss.
66 *Research on Allergy of the Skin. (Zum Studium der cutanen Allergien.) H. Schmidt.
67 *Intestinal Polyposis in a Child. P. Schneider.
68 *Vasomotor Neuroses Affecting the Extremities in Children. (Ueber Akroasphyxie im Kindesalter.) E. Kartje.
69 Congenital Muscular Atony. (Zur Kenntnis der Myatonia congenita Oppenheim.) L. Pollak.
70 *Lime Metabolism in Rachitis. (Zur Bedeutung des Kalkes in der Pathologie der Rachitis.) J. A. Schabad.

65. Blood Pressure in Children.—This is the complete report of research of which a preliminary report was recently published and summarized in THE JOURNAL, July 9, page 173.

66. Skin "Allergies."—The peculiar hypersensitiveness of the skin in certain infectious diseases is the basis of the tuberculin skin test, and Schmidt has been applying this phenomenon in study of other varieties of allergies, as this specific hypersensitiveness is called, using meat extracts, etc., with the Pirquet technic in 100 cases of various diseases.

67. Intestinal Polyposis in Children.—Schneider reports an extreme case of multiple production of polypi in the intestines of a girl of 8. Some cases are known which show a family tendency; Braun has reported the disease in a brother and sister of 19 and 22. The latter developed cancer, and the mother and an uncle died of rectal carcinoma. In Schneider's and in Vajdas' cases whooping cough had preceded the onset of severe symptoms from the polyposis. Unless the polypi are discovered in the rectum or cause prolapse and if there are only symptoms of severe colitis, the edema, anemia and scanty urine suggest kidney disturbance. The polypi keep coming faster and faster and neither medical or surgical measures seem to be able to cure the tendency to the polypous proliferation.

68. Acro-asphyxia in Children.—Kartje has encountered 4 cases of an evident vasomotor neurosis in children between 6 and 12, all at St. Petersburg, and knows of 2 similar cases in Russian literature. The hands and feet are cyanotic, the cyanosis being more pronounced in cold weather, and as the child stands and after long walks. The cyanotic parts sweat to an unusual extent and are hypesthetic while electric tests elicit exaggerated responses on the part of the nerves. Bed rest and measures to stimulate the circulation and tone up the nervous system are in order; good results were obtained, he states, with the constant current, the positive electrode being applied to the brachial plexus, the negative to the back of the neck and the current applied for 3 or 5 minutes.

70. Importance of Lime in Rachitis.—Schabad reports further research in this line, detailing here the results of metabolic findings in experimental rachitis and comparing them with those obtained by others, and also the results of clinical tests, etc., the proportion between the lime eliminated in the urine and in the stool by healthy children and in rachitis. He states that the lime in progressive rachitis is eliminated exclusively in the stool which disproves the "acid" theory.

Beiträge zur klinischen Chirurgie, Tübingen

June, LXVIII, No. 2, pp. 379-603

71 *Mishaps with Hemostasis by the Momburg Belt Constriction. (Ueber künstliche Blutleere der unteren Körperhälfte nach Momburg.) W. Burk.
72 *Freeing the Constricted Nerve in Treatment of Radial Paralysis After Fracture of the Humerus. (Neurolyse bei den durch Humerusfrakturen bedingten Radialisparesen.) H. Els.
73 Experimental Research on Tendon Transplantation. (Die homoplastische Sehnentransplantation im Tierexperiment.) E. Rehn.
74 Series of Three Bacteriologic Tests During Laparotomy. (Die Dreitupferprobe.) O. Ebert.
75 *Congenital Scoliosis. P. Kayser.
76 Treatment of Coxa Vara. H. Laubmann.

77 Periostitis with Albuminous Effusion. (Zur Periostitis albuminosa Ollier.) F. Scheidler.
78 Perforation and Necrosis of the Gall-Bladder. E. Härtig.
79 Torsion of Great Omentum. (Torsion des grossen Netzes.) H. Finsterer.
80 *Acute Perforation of Gastric and Duodenal Ulcers. (Magen- und Duodenalgeschwüren.) H. Finsterer.
81 *Further Surgical Experiences with Differential Pressure. (Ueber Ueberdrucknarkose.) M. Tiegel.

71. **Hemostasis by the Momburg Belt Constriction.**—Burk reports three cases in which the Momburg belt constriction was applied but the experiences were not encouraging. Momburg's technic was strictly followed and in two cases no special influence on the respiration was observed or notable fluctuation in the blood pressure. In the third case the patient was a seamstress of 29, operated on for removal of a vulvar fibroma. The pulse and respiration were good during the operation and after removal of the tubing, but an hour later the pulse became imperceptible. It revived under saline infusion with a few drops of a solution of the active principle of the suprarenal gland and was at 160, persisting small and thready and varying from 140 to 160 for 24 hours. The operation had been done under veronal-scopolamin-morphin-ether general anesthesia. The heart remained very weak and severe enteritis developed but there was no rigidity of the abdominal wall, probably from injury of the innervation from the Momburg belt technic. The patient succumbed the next day with signs of diffuse peritonitis, and autopsy revealed patches of gangrene in the small intestine with resulting peritonitis. The circular strips of suffusion in the walls of the loops of the small intestine were unmistakable signs of direct strangulation from the constricting tubing. He explains the severe injury of the intestine in this case, while nothing of the kind was observed in the 34 other cases on record in which this Momburg technic has been applied, as owing to the fact that the patient was very thin and debilitated. This mishap warns against the use of this technic for very thin persons or when there is an ulcerated or chronic inflammatory condition of the intestine. Another possible danger is an ischemic paralysis of the distal end of the spinal cord, which Pagenstecher observed in one case.

72. **Releasing Constricted Nerve after Fracture of the Radius.**—Els reports most encouraging results from neurolysis to release the nerve from an unfavorable position or from secondary cicatricial callous growth. No harm seems to have resulted from the operation. His patients were three young men, a young woman and a boy of 8. He gives the details of each case.

75. **Congenital Scoliosis.**—Kayser has been able to find only between 50 and 60 cases of congenital scoliosis on record and he gives an illustrated description of another case. His patient was a girl of 9 of healthy parents and healthy herself except for the cervico-dorsal scoliosis. Until the spine was examined with the Roentgen rays the slight deformity had been attributed to cervical ribs.

80. **Acute Perforation of Gastric and Duodenal Ulcer.**—Finsterer reviews the experiences at the surgical clinic at Graz with 18 cases of perforation of gastric or duodenal ulcer in the last ten years, and emphasizes that the fate of the patients rests in the hands of the physician who sees the case first, as salvation lies exclusively in an early operation. Even if 12 or 24 hours have elapsed, operative treatment should be tried, he asserts, as a few cases are on record of recovery even after an operation as late as the seventy-second hour in extensive peritonitis. He advocates copious rinsing with warm salt solution, aspirating it out again with the Luksch aspirator, as the safest and best method of treatment after the operation.

81. **Differential Pressure.**—Tiegel gives an illustrated description of the simple apparatus with which he induces positive pressure in the lungs in the course of operations on the chest as he has applied it in 8 cases. He also reports experimental and clinical research which has shown that a small amount of oxygen given during the positive pressure is able to keep the subject in good condition even when the lung is collapsed. A very slight degree of positive pressure in the intrabronchial air does not injure the lung, he says, nor the conditions in regard to the circulation, while it aids in preventing severe postoperative atony of the stomach. He warns that the tanks should be tested before using the gas; once he had a tank of carbonic acid gas sent by the dealers by mistake. He regards his demonstration of the fact that respiration of pure oxygen under a minimal pressure (1 cm. water) is sufficient to supply the need of oxygen, as an important progress. The arterialization of the blood is more extensive with it even than with ordinary repiration. The lung does not have to be inflated much when the pure oxygen is used, and thus injury from the pressure is avoided.

Berliner klinische Wochenschrift

July 25, XLVII, No. 30, pp. 1397-1440

82 *The Hand as an Obstetric Instrument. (Die "Hand" als Instrument des Geburtshelfers.) W. Liepmann.
83 Ehrlich's "606." (Anwendung des Ehrlich-Hata'schen Syphilismittels in neutraler Suspension.) L. Michaelis.
84 Inherited Syphilis and the Wassermann Reaction. P. Mulzer and W. Michaelis.
85 Experimental Syphilis of the Testicle in the Rabbit After Inoculation with Congenital Syphilitic Material. M. Koch.
86 Determination of Tubercle Bacilli in Disseminated Miliary Lupus of the Face and Acnitis. G. Arndt.
87 Action of Serum on Ether Hemolysis. G. Fischer.
88 Hemolytic Red Blood Corpuscles. (Hämolytisch wirkende Erythrocyten und Darstellung von immunhämolysinen im Reagenzglase.) G. Fischer.
89 Favorable Prospects for Operative Treatment of Extradural Spinal Suppuration. (Fall von extraduraler Spinaleiterung.) E. A. Oppenheim.
90 Obesity in the Young. (Fettleibigkeit im Jugendalter.) H. Stern (New York).
91 Turgosphygmography or Sphygmography? F. Fleischer.
92 Protecting Devices for Roentgen-Ray Work. F. Davidsohn.

82. **The Hand in Obstetrics.**—Liepmann discusses the indications for the use of the hand as an instrument to aid delivery and the various manual maneuvers, lauding Hofmeier's in combination with the Walcher position as particularly serviceable with contracted pelvis. In placenta prævia he advocates Strassmann's method of making external version on the breech and then with two fingers drawing the foot down through the cervix, declaring that this is far simpler and less dangerous than the combined Braxton-Hicks version or the use of the inflatable bag. He knows of an instance in which the forceps introducing the bag perforated the vault of the vagina. At the same time he warns against using the hand to dilate the cervix in case of placenta prævia; trained judgment is required to select the cases in which this can be done. In conclusion he describes what he thinks is a new maneuver to guide the head exclusively with the hand through the pelvic passage to safe delivery. The anesthetized patient lying across the bed, the right hand is placed on the fundus of the uterus to aid in expression and the left hand, gloved, is introduced into the vagina, where it serves to dilate the vagina, then to dilate the os, then to rotate the head and finally to extract it. When the hand is deep in the vagina, the fingers are spread, thus dilating the vagina, and making it possible to grasp the head as one grasps a ball. By a combination of pressure from without, turbinal rotation and cautious extraction, the head is finally worked past the perineum. It is astonishing, he exclaims, how firmly and safely it is possible thus to grasp the head, taking it in the hand like a tenpin ball. In a case described, the woman, a iv-para, had a temperature of 103 F., pulse 110, the internal os being dilated about the size of one's palm, the head impacted in the pelvic outlet. The consultants advised the inflatable bag, then an attempt at forceps and in case this failed, perforation. While the instruments were being made ready, Liepmann delivered the child in less than five minutes. Even if this maneuver does not succeed, it at least provides much better conditions for applying forceps, and is useful when there is reason to fear that the forceps will slip on account of the smallness of the head, in premature deliveries and at twin births. The largest child he has thus delivered weighed 3,000 gm., and was 50 cm. in length. The article is illustrated.

Deutsches Archiv für klinische Medizin, Leipsic

XCIX, Nos. 5-6, pp. 431-636. Last indexed August 27, p. 800

93 Morphology of Blood Production in Pernicious Anemia. (Morphologie der Blutbereitung bei perniziöser Anämie.) K. Ziegler.
94 Differential Diagnosis Between Eventration and Hernia of the Diaphragm. M. Otten and E. Schefold.
95 *Pathologic Electrocardiagrams. A. Pribram and R. H. Kahn.
96 *Further Research on Hemophilia. H. Sahli.

97 *Encephalitis After Whooping Cough. (Ueber Encephalitis nach Keuchhusten.) A. v. Domarus.
98 The Viscosity of the Blood and its Flow in the Arterial System. (Die Viskosität des Blutes und seine Strömung im Arteriensystem.) R. Thoma.

95. **Pathologic Electrocardiograms.**—Pribram and Kahn analyze the findings in 300 electrocardiograms taken of various patients with different forms of heart disease. Seven large tables give 129 electrocardiograms for study of the details.

96. **Nature and Treatment of Hemophilia.**—Sahli has continued his research on 4 typical hemophiliacs and also on 2 new ones, striving to obtain better insight into the nature of hemophilia and to explain the phenomena observed by various authors. His assumption is that hemophilia is an anomaly of the cellular elements of the blood and of certain other cells, especially in the walls of the vessels, entailing defective production of thrombokinase. This latter factor is evident when the bleeding continues although the coagulating property of the blood after much loss of blood may be normal or above. The practical lessons from this work are that the hemophilia may be constitutionally influenced by repeated injection of fresh human blood serum for the purpose of thrombokinase enrichment by the intermediate link of antikinase production. Another way is by repeated withdrawal of small amounts of blood by puncture of a vein with a fine cannula, for the similar purpose of thrombokinase enrichment, by means of the physiologic reaction that follows. Experience has shown that there is no danger of hemorrhage in a hemophiliac if the vein is punctured with a fine cannula, permitting harmless withdrawal of blood and the consequent physiologic reaction. An ordinary venesection might prove dangerous. Two of his patients are brothers and another is their uncle and two other uncles died of hemorrhage.

97. **Encephalitis after Whooping Cough.**—In the case reported, a healthy boy of 6 was convalescing from a moderate attack of whooping cough when febrile general symptoms developed soon accompanied by right hemiplegia and loss of voice. The paralysis gradually subsided but months later there are traces of the cerebral hemiplegia. In 5 similar cases on record autopsy revealed a hemorrhagic encephalitis, such as is the rule with influenzal encephalitis.

Deutsche medizinische Wochenschrift, Berlin

July 28, XXXVI, No. 30, pp. 1393-1432

99 *Experiences with Ehrlich's "606." (Erfahrungen und Erwägungen mit dem neuen Ehrlich-Hataschen Mittel bei syphilitischen und metasyphilitischen Erkrankungen.) G. Treupel.
100 *Technic for Injection of Ehrlich's "606." (Ueber die Technik der Injektion des Dioxy-diamido-arsenobenzol.) W. Wechselmann and C. Lange.
101 *Operative Treatment of Cerebral Hemorrhage. (Vorschlag zur operativen Behandlung des Hirnschlags [Hirnblutung].) F. Franke.
102 Research on Trypanosomes in Africa. (Trypanosomenbefunde am Tanganyka und andere Beobachtungen.) Kleine.
103 Paroxysmal Tachycardia with Exophthalmic Goiter. L. Bamberger.
104 Sick Breast-Fed Infants and Mixed Feeding. (Ueber kranke Brustkinder und vom Allaitement mixte.) H. Risel.
105 Fracture of the Astragalus. (Bruch des Processus posterior tali.) Grunert.
106 Double Private Residence for Two Physicians with Common Waiting and Operating Rooms. (Doppelwohnhaus für zwei Aerzte.) H. Gruber.

99 and 100. Commented on editorially in THE JOURNAL, Aug. 13, 1910, page 601.

101. **Operative Treatment of Apoplectic Stroke.**—Franke advocates operative intervention in case of acute cerebral hemorrhage, before irreparable changes have been induced from compression by the extravasated blood. The brain seems to be able to stand without serious injury considerable compression if the strain is not kept up too long and if the blood is evacuated before the brain tissue has softened under its direct influence and its toxic action. In a recent case, the autopsy findings when compared with the course of the syndrome impressed him with the conviction that operative treatment after the first shock would in all probability have saved the patient. Puncture of the brain or trephining would have released the blood, especially if a fine metal cannula with holes in the side had been slipped in over the needle and left in the opening for permanent drainage. He trephined in the case reported but not until two weeks had elapsed after the hemorrhage; irreparable harm had already been done and the patient soon succumbed. He makes the trephine opening with the Gigli wire saw and remarks that the dangers of puncture and trephining are negligible in comparison with those which cerebral hemorrhage entails. Minute examination and observation are necessary to locate the site of the hemorrhage; the most apparently insignificant signs must be watched for and noted, for example, slight paresis of the facial muscles, mouth breathing, behavior of the abdominal and cremaster reflexes, which are diminished or abolished on the paralyzed side, the Babinski reflex on the side involved, slight tension of the extremities during passive movements on the sound side, conjugated deviation of the eyes toward the side involved or a history of some preceding slight apoplectic attack and determination of the site of the hemorrhage at that time. He urges that a surgeon should be called in during the first few hours after a serious apoplectic stroke so that the physician and the surgeon can study the case together, locate the hemorrhage and discuss whether the condition permits of operative intervention or is not serious enough to demand it. The puncture could then be done at once in the home; if this fails to give relief, trephining might follow. He does not think that a cautious removal to a hospital would essentially increase the dangers for the patient. By this means the blood could be removed from the brain within 2, 3 or 5 hours, this period of time being allowed to elapse to permit revival from shock and reduce the danger of serious after-hemorrhage. The practitioner generally is the one who first sees patients with cerebral hemorrhage, and to him Franke appeals to help place cerebral hemorrhage on the same plane of successful treatment as perforation of a viscus, stab wounds of the heart and acute peritonitis.

Deutsche Zeitschrift für Chirurgie, Leipsic

June, CV, Nos. 3-4, pp. 261-444

107 Operative Treatment of Congenital Megacolon. (Zur operativen Behandlung der Hirschsprungschen Krankheit.) A. Biermans.
108 Multiple Cholangitic Abscesses in the Liver Cured by Drainage of the Gall-Bladder. (Heilung multipler cholangitischer Leberabszesse durch Drainage der Gallenblase, nebst Bemerkungen über die Drainage der Gallenwege: Cholecystodochostomie.) F. Franke.
109 The Murphy Button Applied to the Large Intestine: 13 Cases. (Ueber die Anwendung des Murphyknopfes am Dickdarm.) R. Mühsam.
110 Primary Cancer of the Appendix. (Zur Frage der primären Wurmfortsatzcarcinome.) T. Voeckler.
111 Hard Traumatic Edema of Dorsum of Hand. (Ueber das harte traumatische Handrückenödem.) F. Schlichting.
112 Pathogenesis of Foreign-Body Appendicitis. (Kasuistik und Pathogenese der Fremdkörper-Appendicitis.) W. Lossen.
113 Plastic Operation to Close Defects in the Ureter in Women. (Ueber plastischen Ersatz von Ureterdefekten beim Weibe.) L. v. Stubenrauch.
114 Volvulus of the Small Intestine as Tardy Consequence of Appendicitis. (Ueber Dünndarmvolvulus als Spätfolge von Appendicitis.) E. Haim.
115 Diagnosis and Treatment of Early Stage of Acute Appendicitis. E. Sonnenburg.
116 *Thyroid Treatment to Promote Healing of Wounds. (Schilddrüse und Wundheilung.) A. Siegmund.
117 Indirect Fractures of the Shaft of the Fibula. Grunert.
118 Hip-Joint Dislocation in Younger Children Resulting from Inflammation. H. Ziegner.
119 Diagnosis by Auscultation of Adhesions between Large Abdominal Tumors and the Anterior Wall of the Abdomen. (Diagnose der Verwachsungen grosser Bauchtumore mit der vorderen Bauchwand mittelst der Auskultation.) V. Piazza-Martini.

116. **Organotherapy in Surgical Prophylaxis.**—Siegmund declares that the technic of the surgeons cannot be perfected much further and yet the outcome of operations is still a matter of chance in a great degree. This is owing to the individual conditions of tolerance and resistance in the different cases, just as one person contracts typhoid while others equally exposed escape. Two recent cases in his experience suggest that this individual tolerance and resistance may be due to the individual functioning of the ductless glands, the thyroid in particular. In one of the cases a woman of 34 had displayed from childhood a tendency to suppuration on the slightest excuse. Like a hemophiliac's hemorrhages,

she produced pus on the least provocation, and naturally there was extensive suppuration after an injury of the arm from broken glass. In the other case the reverse was observed; the woman of 43 suffered from distressing subjective symptoms of sclerosis of the middle ear and was also nearly blind. In order to relieve the tormenting roaring sounds he made a seton in the back of her neck, having cured another patient by this means of incessant vertigo and headache, chronic through years, and the cure has been complete for several years to date. But in the present case there was no suppuration in the seton although he tended it carefully every day. In both cases the outcome of the surgical intervention was not as the surgeon willed but as Nature willed. The only way in which the surgeon can obtain his purpose is by following the trail blazed by Nature, and Siegmund thinks this can be done by organotherapy. The way to do this was suggested by a third case in which a wound on the head of a small child suppurated interminably until he noticed that the other, older children in the family showed signs of thyroid insufficiency. Notwithstanding that the youngest was robust and lively, he reasoned that a family tendency to defective thyroid functioning might be the cause of the persisting suppuration, and this assumption was sustained by the rapid healing of the wound under thyroid treatment. His other 2 patients also presented signs of thyroid insufficiency and he believes that thyroid treatment is also indicated for them. Prophylactic thyroid treatment in puerperal sepsis has many arguments in its favor, he explains, and calls attention to the fact that the thyroid may have brief periods of disturbed functioning when at other times it does its work normally. Siegmund regards this as a virgin field rich in promise. Each ductless gland evidently produces a number of substances in its internal secretion, each of which has a different action, the lack of one or more entailing myxedema, exaggerated pus production, etc., as the case may be. The more of these substances we can isolate and use, the more scientific the organotherapy, but even with the thyroid preparations already at our disposal it is possible to solve many of the present questions in respect to constitutional predisposition, suppuration and granulation of wounds, production of protecting substances in the blood, phagocytosis, therapeutic hyperemia, etc.

Fortschritte der Medizin, Leipsic

July 14, XXVIII, No. 28, pp. 865-896

120 Hernias. F. Kayser.
121 *Regulatory Albuminuria. F. C. R. Eschle.

121. **Regulatory Albuminuria.**—Eschle applies this term to the albuminuria liable to be observed after excessive physical exercise, with suppuration elsewhere in the body and after chilling, a transient elimination of albumin for which the kidney is merely the outlet without being responsible for its production. This regulatory albuminuria is also liable to be observed, he says, with diarrhea, with anemia in the young and with amyloid degeneration, the loss of fluids leaving an excess of albumin in the blood which is then thrown off through the kidneys. The albuminuria in these cases is often attributed to kidney disease, but the normal amounts of urine and lack of uremic brain symptoms speak against this. It is a grave mistake, he declares, to treat an anemic young patient as for a tuberculous kidney disease when quite other measures are needed. The kidneys rarely seem to suffer from the task of eliminating the extra amounts of albumin with these regulatory processes unless the albuminuria is intense and long continued, as in diabetes.

Medizinische Klinik, Berlin

July 31, VI, No. 31, pp. 1205-1244 and Supplement

122 *Neuropathology of the Eyes in Psychoses. V. Kafka.
123 *Surgical Orthopedic Treatment of Infantile Spinal Paralysis. (Behandlung der spinalen Kinderlähmung.) F. Wette.
124 Kefir in Infant Feeding. (Weiteres über Kefirmilch als Säuglingsnahrung.) K. Dresler.
125 Elasto-Massage. A. Schnée. Commenced in No. 30.
126 Perforation Outward of Gall-Stones. (Beitrag zur Selbstheilung bei Gallensteinen.) F. Fischer.
127 *Hyperemia in Internal Medicine. (Physikalische Therapie in der internen Medizin.) Weidenbaum.
128 Operative Treatment of Paralysis of the Biceps. (Die Möglichkeiten der operativen Behandlung der Lähmung des Musculus biceps brachii.) K. Lengfellner and F. Frohse.
129 Influence of Potassium Iodid on Wassermann Reaction. (Einfluss der Jodkalibehandlung auf die Wassermannsche Reaktion.) E. Bizzozero.
130 Pathology of the Teeth and the General Practitioner. (Was muss der praktische Arzt von den Zahnkrankheiten wissen?) Williger.

122. **Neuropathology of the Eyes in Psychoses.**—In the first case described the visual field became restricted according to the hemianopsia type in the course of a hysterical disturbance with hallucinations, and yet the hemianopsia was merely functional. It could be influenced by suggestion but always returned to the former type. In the second case total rigidity of the pupils was observed in a young drunken man, the intoxication having been induced by a small amount of alcohol after emotional stress. This transient rigidity of the pupils was also observed during the alcohol intoxication of an imbecile young man.

123. **Surgical-Orthopedic Treatment of Infantile Spinal Paralysis.**—Wette remarks that the results of treatment are better the simpler the method of correction used and the greater the attention that is paid to the after-treatment. In some cases it is necessary to wear the correcting apparatus for years after the operation to ensure a permanent and complete cure. Fixation is always necessary for at least three months.

127. **Hyperemia in Internal Diseases.**—Weidenbaum has been applying constriction or suction hyperemia as a routine measure in treatment of gall-stone and liver troubles, sciatica, leg ulcer and asthma during the last five years, and has been much gratified with the good effects obtained. In more than 100 cases of gall-stone and catarrhal liver enlargement, the application of a large suction bell over the liver region gave almost immediate relief, the pains and the swelling of the liver rapidly subsiding. The effect is very striking in gall-stone colic, the whole attack being aborted by the action of the large cupping glass, so that now he always applies the suction bell or hot air box before giving morphin even in the severest attacks from gall-stones or kidney stones; it frequently renders the sedative unnecessary. In some cases the pain increases under the suction bell, and the temperature rises; when this occurs the trouble is invariably empyema of the gall-bladder, and this differentiates the condition at once. The superheated air box answers the same purpose as the cupping bell and is preferable for nervous patients or when the skin is sensitive. With kidney-stone colic and sciatica the suction bell gives the greatest relief, the bell being pressed firmly down over the kidney or the sciatic foramen. In a number of cases of diabetic polyneuritis in which the pains had resisted all other measures, they subsided under a constricting band. Great care is necessary to keep changing the position of the band, moving it up or down and constantly instructing the patient to warn of the slightest sensation of discomfort, as otherwise decubitus might develop under the band. Notwithstanding this grave danger, he asserts that the great service rendered by the band in some cases justifies its use. In a typical case of this kind a woman of 54 with arteriosclerosis, advanced diabetes and cardiac insufficiency, had suffered for six months from severe polyneuritis and diabetic xanthoma. The incessant pains and sleeplessness and the medicines she had been taking during this time, as she was constantly under the care of eminent authorities in metabolic disturbances, had reduced the patient to such an extent that she was unable to leave her bed. At once on application of the constricting band the pain subsided and she had a good night's sleep, the first in months. By the fifth week the polyneuritis had disappeared and with it the xanthoma. A recurrence a year later disappeared again in the same way under the same measures. The xanthoma had been most pronounced on the back in this case and its subsidence confirms Bier's claim that the hyperemic treatment stimulates blood production in remote parts. The hot air box may be preferable for diabetic gangrene; he has had good results from its use for this purpose, as also for old rebellious leg ulcers. An extensive leg ulcer on a patient with a mild form of diabetes had resisted all treatment for years, but healed in 5 weeks under superheated air treatment. When only a single limb is to be treated, he applies the hot air

box now for all cases of diabetic neuritis and neuralgia. The suction bells have also proved effectual in relieving respiratory disturbances. Several large cupping glasses applied between the shoulder blades gave relief at once in cases of bronchial asthma, emphysema of the lung and dyspnea from cardiac insufficiency; and essential improvement followed systematically continuing this treatment. In a case of uremia it proved possible by this means to check effectually the dyspnea and convulsions.

Mitteilungen aus den Grenzgebieten der Med. und Chir., Jena

XXI, No. 5, pp. 729-930. Last indexed June 25, p. 2141

131 Lymphocytosis of the Blood with Exophthalmic and Other Goiter. (Ueber Lymphocytose des Blutes bei Basedow und Struma.) M. Kappis.
132 *Peptic Ulcer in the Esophagus. M. Kappis.
133 *The Question of Surgical Treatment of Exophthalmic Goiter. (Zur Frage der chirurgischen Behandlung des Morbus Basedowii.) H. Leischner and O. Marburg.
134 *Syphilis of the Spine and Base of the Skull. (Zur Kenntnis der Syphilis der Wirbelsäule und der Basis cranii.) K. Petren.
135 Treatment of Disease in the Lower Large Intestine. (Zur Behandlung der Erkrankungen des unteren Dickdarmes.) E. Rosenberg.
136 *Latent Stenosis of the Pylorus. R. Dahl.
137 *Unilateral Suppurative Hematogenous Nephritis and its Treatment. E. W. Baum.
138 Cartilaginous Tumors on the Bronchi. (Klinische Bedeutung der Bronchialekchondrosen.) Blecher.
139 *Operative Treatment in Benign Gastric Disease. (Zur Chirurgie der gutartigen Magenerkrankungen.) V. Lieblein.
140 The Cooling of the Inspired Air with the Drop Technic of Administering Ether; Its Importance and Prevention. (Ueber die Abkühlung der Inspirationsluft bei der Aethertropfnarkose, ihre Bedeutung und ihre Verhütung.) M. Hoffmann.
141 Traumatic Polyuria. E. Schümann.
142 Appendicitis as Factor in Inflammation in the Biliary Apparatus and in Cholelithiasis. (Appendicitis in der Genese der Entzündung der Gallenwege und der Cholelithiasis.) Weber.

132. **Peptic Ulcer in the Esophagus.**—Kappis reports a personal case and compares it with fourteen on record in which the peptic ulcer was confirmed by autopsy. None of the cases had been correctly diagnosed which is not surprising as in only five cases were there any symptoms on the part of the esophagus, pains or difficulty in swallowing and in three of these gastric disturbances predominated. Regurgitated gastric juice or islands of gastric mucosa aberrant in the esophagus and secreting a peptic juice seem to have cooperated in some of the cases. Regurgitation of the gastric juice into the esophagus was favored by stenosis at the pylorus or duodenum or by hour-glass stomach in seven cases and in most of them the cardia was much enlarged. In eight of the fifteen cases there were coexistent gastric or duodenal ulcers. Dietetic measures should be instituted on suspicion of peptic ulcer in the esophagus or direct endoscopic local treatment. The most effectual measure, however, is prompt gastrostomy which rests the esophagus and gives it a chance to heal, thus warding off impending hemorrhage or perforation. An important point, however, is that peptic ulcer of the esophagus is generally secondary to some lesion elsewhere and removal of the primary cause is essential.

133. **Operative Treatment of Exophthalmic Goiter.**—Leischner and Marburg discuss this question on the basis of forty-five cases in which an operation was done in the university clinic at Vienna in charge of von Eiselsberg. Persistent large thymus was responsible for one of the five fatalities, the status thymicus being accompanied by severe degeneration of the heart. Pneumonia in a tuberculous and much debilitated woman of 46 proved fatal in another case and recurring apoplexy in another. The fifth fatality was in a case of advanced heart disease, compression from the enlarged thyroid compelling operative treatment as a last resort. Among the cured patients were some with persisting thymus which is thus seen to be not a contraindication for operative treatment, unless complicated with heart disease or cachexia. Removal of half of the goiter is the preferred technic; the arteries are not ligated unless the patient is much debilitated. The conclusions are that operative treatment is indicated with compression and for social motives but only relatively indicated with cachexia increasing refractory to treatment or subjective disturbances becoming unbearable.

134. **Syphilitic Disease of the Spine and Base of the Skull.**—In Petren's first case the syphilis induced caries of the second cervical vertebra and likewise a recurring meningeal affection mostly localized in the vicinity of the syphilitic bone process. In two other cases the localization of the bone process was about the same, as also in forty-two cases he found on record. It seems evident that the cervical vertebræ afford a predisposition for the localization of syphilis. In seventeen of the cases a complete cure was realized by appropriate measures against the syphilis. In the thirteen fatal cases there had been scarcely any attempt at specific treatment. It was noticed in some of the cases that the pains and tenderness were predominantly or exclusively on one side which may possibly help to differentiate this affection from rheumatic disturbances. The Roentgen rays first suggested the possibility of caries of the base of the skull, and then certain neurologic phenomena in some of the cases.

136. **Latent Stenosis of the Pylorus.**—A similar article by this author was summarized in THE JOURNAL, May 21, 1910, p. 1732.

137. **Unilateral Suppurating Nephritis.**—Baum applied nephrotomy in the 3 cases of acute hematogenous nephritis described. Recovery was not only prompt and complete but functional tests of the kidneys nearly a year later showed practically complete recuperation. The chief danger of conservative surgical treatment is that the bacteriuria is left and it may prove a source of infection. In one of his cases the other kidney became involved and presented a transient syndrome indicating brief mild infection. Hessert, however, has reported a case in which even nephrectomy did not protect the remaining kidney from secondary infection.

139. **Surgery of Non-Malignant Stomach Disease.**—Lieblein has operated in 15 cases in the last 5 years including 3 of perforation. His experience teaches that gastroenterostomy is still the best method of treatment in cases of open gastric ulcer when there is no suspicion of cancer. Careful and prolonged internal treatment is required after the operation, sometimes a long interval elapsing before the clinical cure. The ulcers at the pylorus, even those of a callous or penetrating character, indicate gastroenterostomy rather than resection, but the tendency to cancerous degeneration displayed by ulcers in the lesser curvature or rear wall of the stomach imposes more radical measures, transverse resection of the stomach or typical pylorectomy. Cancerous degeneration followed in 2 of his cases of this kind, and in future he will be more radical in operating. The callous and penetrating ulcers generally had caused symptoms for years, and the comparative harmlessness of operative treatment in this class of cases and the good results justify, he thinks, an earlier resort to surgery.

Monatsschrift für Geburtshülfe und Gynäkologie, Berlin

July, XXXII, No. 1, pp. 1-124

143 Treatment of Extensive Uterine Prolapse by Abdominal Total Hysterectomy, Ventrofixation of Vaginal Vault and Colporrhaphy. O. Küstner.
144 Treatment of Cleft Pelvis with Total Exstrophy of the Bladder in Woman of 34. (Fall von Spaltbecken mit Ectopia vesicalis totalis.) L. Mohr.
145 *Allowing Patients to Get Up Early After Laparotomies. (Frühaufstehen Operierter und Thrombophlebitis.) F. Schweninger.
146 Cause of Development of Amniotic Bands. (Zur Kenntnis der Entstehungsursachen amniotischer Stränge.) F. Haase.
147 Velamental Attachment of Umbilical Cord. (Zur Klinik der Insertio velamentosa funiculi umbilicalis.) M. Fetzer.
148 *Tearing of the Uterus after Cesarean Section. (Zerreissungen der Gebärmutter nach Kaiserschnitt.) A. Dahlmann.
149 Two Cases of Axial Torsion of the Uterus. (Achsendrehung des Uterus.) J. Olow.

145. **Prevention of Postoperative Thrombophlebitis.**—Schweninger states that 22 cases of femoral thrombophlebitis were encountered in the total 1,315 patients operated on between 1905 and 1909 at the Munich policlinic for women's diseases, and study of these cases emphasizes the importance of toning up the system before undertaking any serious operation. Even at the best, a major operation, he remarks, must be regarded as a serious trauma and a grave danger for which the organism must be prepared. Flabby tissues should be toned up if possible beforehand, and for this it is not enough to send the patient to the country to follow her own inclinations—in many cases the trouble in question is the conse-

quence of an irrational mode of life. The patient should be under medical care and diet, massage and hydrotherapy should be applied systematically under the physician's directions. The after-treatment should be graduated to the patient's general condition: passive stimulating treatment during recumbency, frequent change of position, massage, sponging off and cool sleeping; then more active measures, the patient still being kept recumbent, and finally active measures out of bed, walking, breathing exercises, etc., in progressive dosage. Under all circumstances it must be borne in mind, he adds, that standing still, erect, is the most injurious position for the circulation and should be avoided the longest.

148. **Rupture of the Cicatrix after Cesarean Section.**—Dahlmann reports 3 cases of this accident and has collected 23 from the literature. In 17 of the cases the pelvis was much contracted, and in 2 there was a tumor. In 10 cases the incision had been median, in 12 transverse. The chief factor inducing conditions favoring rupture later is the lack of primary healing of the Cesarean wound. In 20 of the 23 cases in which the outcome is mentioned, the mothers were saved but only 5 of the children in 22 cases.

Monatsschrift für Kinderheilkunde, Leipsic

IX, No. 3, pp. 131-200. Last indexed August 6, p. 542

150 *Rachitis. (Die erste Vorlesung in Strassburg, May 9, 1910.) A. Czerny.
151 Apparent Flaring up of Local Tuberculin Reaction During Measles. (Scheinbares Aufflammen abgelaufener Tuberkulinreaktionen während der Eruption von Masern.) B. Schick.
152 *Experiences with "Albumin Milk" in Infant Feeding. (Ueber Ernährungsversuche mit Eiweissmilch.) W. Birk.
153 Milk Sugar Better Avoided in Infant Feeding. (Welcher Wert hat Milchzucker für die Ernährung der Säuglinge.) R. Weigert.
154 Parallel or Varying Development of Twins after Intercurrent Disease. (Beobachtungen an Zwillingen.) A. Orgler.
155 Treatment of Furunculosis in Infants. H. Vogt.
156 Influence of Heat on the Temperature of Infants. (Einfluss der Wärme auf die Temperatur der Säuglinge.) G. Genersich.

150. **Rachitis.**—Czerny defines rachitis as a congenital constitutional anomaly whose most prominent symptom is the change in the bones and cartilages. There is evidently a general nutritional disturbance affecting the bones and inducing symptoms on the part of the nervous system. The latter may even be the primary trouble. Lack of sufficient lime in the food is evidently a factor in the syndrome, and this may occur even with breast feeding if the child did not bring an ample supply of lime with it into the world. Dietetic treatment in time has an essential influence on the course of rachitis.

152. **Albumin-Milk in Infant Feeding.**—The formula for Finkelstein's sugar-poor mixture was given in these columns, July 2, page 93. Birk reports its use in 30 cases, his experience confirming that of others in regard to its doing good service in acute and chronic alimentary disturbances. By thus reducing the proportion of sugar and restricting fermentations in the intestine, the infant's tolerance for fat is increased.

Münchener medizinische Wochenschrift

July 26, LVII, No. 30, pp. 1577-1624

157 Experimental Alimentary Calcification of the Arteries. (Alimentäre Schlagaderverkalkung.) O. Lubarsch.
158 Experiences with Ehrlich's "606," Dioxydiamido-arsenobenzol. H. Loeb.
159 Improved Technic for the Wassermann Reaction. (Erweiterte Wassermannsche Methode zur Differentialdiagnose zwischen Lues cerebrospinalis und multipler Sklerose.) A. Hauptmann.
160 *Epidemic Cerebrospinal Meningitis and Germ Carriers. (Ueber Genickstarre, besonders die Keimträgerfrage.) G. Mayer, A. Waldmann, T. Fürst and G. B. Gruber.
161 Roentgen-Ray Diagnosis of Ulceration in the Middle Stomach Region. M. Haudek.
162 Acute Internal Hemorrhage in the Suprarenals. (Die Apoplexie der Nebenniere.) S. Brodnitz.
163 The Psychology of Juvenile Criminals in Cities. (Zur Psychologie des jugendlichen Verbrechers der Grosstadt.) K. Rupprecht.

160. **Germ Carriers and Epidemic Meningitis.**—An unusually extensive and painstaking bacteriologic examination was made of the troops in garrison at Munich to determine the prevalence of healthy carriers of meningococci. There had been an epidemic of cerebrospinal meningitis in the garrison the year before. It was found that nearly 2 per cent. of the 9,111 healthy men examined once harbored the germs and they were found in 2.46 per cent. of 1,911 examined a second time. From these findings in 11,022 healthy persons it seems evident that the germ is ubiquitous both during and outside of epidemics. Study of the epidemic there and of epidemics elsewhere seems to demonstrate that the epidemics die out spontaneously, regardless of what measures may be taken against them beyond the indispensable institutional isolation of the sick and general hygienic measures. It seems hopeless, the authors say, to attempt to control the disease on the same principles as typhoid and cholera are controlled, the conditions being so different.

Virchows Archiv, Berlin

July, CCI, No. 1, pp. 1-160

164 Cause of Death after Intravenous Injection of Alien Serum. (Todesursache nach intravenöser Injection von artfremdem Blutserum.) L. Loeb, A. Strickler and L. Tuttle.
165 Vital Staining of the Embryo. S. Zaretzky.
166 Systematic Measurements of Lumen and Thickness of the Large Arteries. (Systematische Lichtungs- und Dickenmessungen der grossen Arterien und ihre Bedeutung für die Pathologie der Gefässe.) K. Iwakichi.
167 Conditions Entailing Thrombi and Necrosis of the Liver after Intravenous Injection of Ether. (Zur Analyse der Entstehungsbedingungen der Thromben und Lebernekrosen nach intravenöser Injektion von Aether.) L. Loeb and M. K. Meyers.
168 Histologic Determination of Acidosis. O. H. Petersen.
169 Fibrosis of the Testicle. (Ueber Fibrosis testis.) M. Simmonds.
170 Pathology of the Esophagus. W. Kern.

Wiener klinische Wochenschrift, Vienna

July 28, XXIII, No. 30, pp. 1099-1130

171 *By-Effects with Ehrlich's "606." (Ueber unerwunschte Nebenerscheinungen nach Anwendung von Dioxydiaminoarsenobenzol [606] Ehrlich-Hata.) K. Bohac and P. Sobotka.
172 The Meiostagmin Reaction with Cancer. (Zum Studium der Meiostagminreaktion bei bösartigen Geschwülsten.) S. Verson.
173 Determination of Intensity of Putrefaction Processes in the Intestines. (Studien über Darmfäulnis.) A. Rodella.
174 *Graphic Registration of Deformities. (Ein einfaches und einwandfreies Verfahren zur bildlichen Darstellung von Deformitäten, speziell der Skoliose.) O. Semeleder.
175 Case of Simultaneous Tabetic Gastric Crises and Tetany. W. Ruettner.

171. **By-Effects with Ehrlich's "606."**—Bohac and Sobotka report the occurrence of a set of symptoms in 3 out of 14 patients being treated with Ehrlich's new remedy for syphilis. These unexpected by-effects were retention of urine for from half a day to over 9 days, abolition of the knee-jerk and of other common reflexes and extreme rectal tenesmus with tenacious constipation. This syndrome occurred in a more or less pronounced form in these 3 patients with moderate doses, suggesting that the symptoms might have been alarming if the dose had been a little larger, as they indicated a paralysis or inhibition of certain nervous elements. The syndrome resembled that observed in some cases after administration of atoxyl, but impurities in the drug may have been responsible for it. The experiences related are from the dermatologic clinic at Prague in charge of Kreibich. In other respects the experiences confirmed the claims made for the new remedy by Ehrlich and others. And notwithstanding the untoward by-effects observed in 3 out of the 14 cases, the clinic does not intend to abandon the use of the remedy but will reserve it for the cases in which the ordinary measures are contraindicated for any reason or have failed completely. It will also be used in cases in which the pains or malignant character of the disease, threatening serious functional disturbances or disfigurement as from numerous localizations of malignant syphilis, compel urgent measures—the patient being always fully informed as to the dangers and "untriedness" of the new method of treatment.

174. **Simple Method of Estimating and Recording Deformities.**—The lack of a simple method for recording the extent and the changes in scoliosis and other deformities has long been felt by orthopedists. Semeleder has found a stripe technic a reliable means of tracing the progress of the patient under treatment and of impressing the patients and their friends with the necessity for treatment or its continuance. The patient stands against a wall and the shadows of a number of horizontal lines are thrown on his body as a photo-

graph is taken. On a plane surface the stripes are even and straight but on the body they assume fantastic curves, bringing into prominence any deviation from symmetry. He has the camera mounted on a frame on a level with the

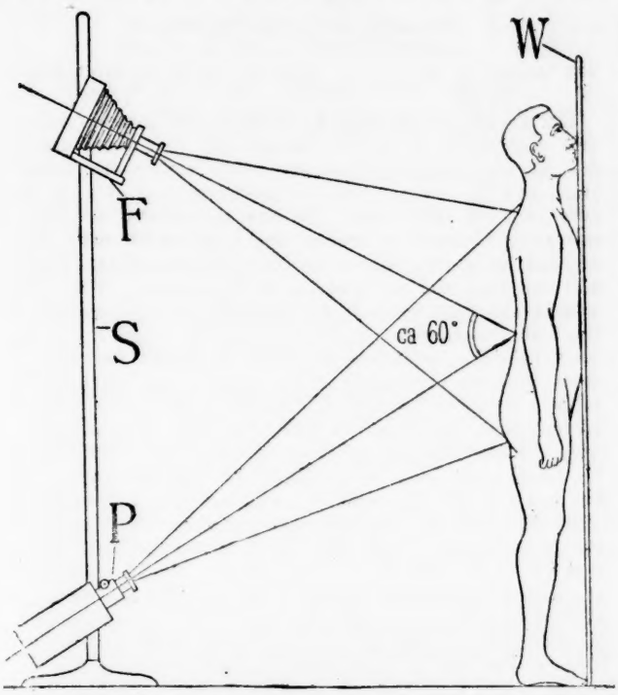

Fig. 1.—W, wall; F, camera; P, light, with lines on slide; S, Standard on which the camera and lantern pivot.

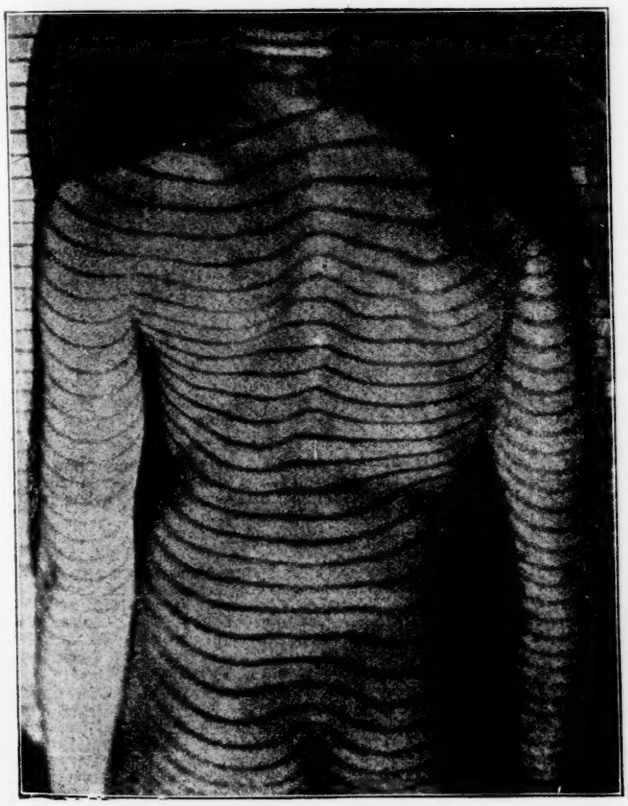

Fig. 2.—Lines thrown on patient's back.

patient's head; the light throwing the shadow of the lines is mounted on the same frame near the floor, each pivoting so that the axial center lines from each meet at the center of the area to be photographed.

Zeitschrift für Urologie, Berlin

July, IV, No. 7, pp. 481-560

176 Concrements in Male Urethra and Bladder. (Einige Konkretionen der unteren Harnwege.) C. Adrian.
177 Implantation of the Ureters in the Rectum. (Zur Technik der Ureterenüberpflanzung in den Mastdarm.) S. R. Mirotworzeff.
178 *Trabeculæ in Bladder Wall as Early Sign of Tabes. (Die Balkenblase als Frühsymptom bei Tabes dorsalis.) R. Frohnstein.
179 Sterilization and Drying of Catheters. (Sterile und trockene Katheter.) W. H. Dreuw.
180 Occurrence of Urinary Concrements in Finland. (Vorkommen von Harnsteinen in Finnland.) G. Renvall.

178. **Hypertrophy of Bladder Trabeculæ as Early Sign of Tabes.**—Frohnstein examined the bladders of 20 patients at Moscow with unmistakable or suspected tabes and found that the walls of the organ showed signs of excessive muscular effort in every case of tabes. Sometimes this was the first sign of the disease, the course later confirming its specific character. As the bladder has to make more of an effort to void its contents on account of the encroaching spinal cord disease, the walls develop ridges like beams. These beams in tabes are delicate but regular and are found on both the side walls and fundus. The sensory paralysis of the bladder mucosa weakens the impulse to empty the bladder; urine accumulates and dilates the bladder and the walls hypertrophy from the compensating extra muscular effort required.

Zentralblatt für Gynäkologie, Leipsic

July 30, XXXVII, No. 31, pp. 1009-1032

181 Experimental Anaphylactic Research on Exophthalmic Goiter. (Experimentelles zum Wesen der Basedowkrankheit.) G. Wolfsohn.

Zentralblatt für Gynäkolozie, Leipsic

July 30, XXXIV, No. 31, pp. 1041-1072

182 *Circular of Instructions for Parturients. (Ein Flugblatt für Wöchnerinnen.) J. Reich.
183 Danger of Rupture of Uterus after Cervical Section. (Zur Frage von der Uterusrupturgefahr nach dem cervikalen Uterusschnitt.) J. Olow.
184 Origin of Mucocellular Ovarian Fibrosarcoma. (Zur Histogenese der sogenannten Krukenberg'schen Eierstocksgeschwülste.) K. Ulesko-Stroganoff.

182. **Circular for Parturients.**—Reich reproduces the circular which is handed to each woman on leaving the maternity after childbirth. It gives from 6 to 8 paragraphs of directions "For the Mother" and "For the Baby," commencing with the statement that the "confinement" lasts from 4 to 6 weeks, not merely the few days the woman is in the hospital. It adds that during these weeks the woman is especially liable to take cold, to bleed, to contract diseases and to have the womb get out of place. At the least sign of a chill, passage of pure blood or abdominal pain she must apply for medical aid without delay. The most dangerous consequences are liable to follow resumption of conjugal intercourse before the end of the fourth to sixth week.

Gazzetta degli Ospedali e delle Cliniche, Milan

July 24, XXXI, No. 88, pp. 921-936

185 Extraperitoneal Treatment of Fistulas. (I nuovi metodi extraperitoneali nella cura delle fistole.) F. Bindi.
186 Advantages of Venesection for Certain Climacteric Disturbances. (Utilita del salasso in alcuni disturbi della menopausa.) G. Giovanni.

Policlinico, Rome

July 24, XVII, No. 30, pp. 931-962

187 Experimental Research on Anaphylaxis from Cellular Endotoxins. G. Breccia.
188 *Masked Tuberculosis. (Le tubercolosi larvate.) G. Jona.

188. **Masked Tuberculosis.**—Jona discusses the various forms of what he calls "masked" tuberculosis, the healed and latent forms, the complicating and the obscure and especially the form with jaundice which nothing but tuberculosis can explain. The form in which tuberculous infection of the glands simulates a febrile pseudoleukemia is not so rare as the scorbutic form; he has encountered a number of examples of each. In a case of the latter reported by Senator there was nothing during life to suggest the tuberculous nature of the scorbutus and autopsy alone showed that the tuberculosis was not only the predisposing but the essential factor in the scorbutus. Several similar cases have been

reported since. Jona has had 4 patients in his charge with tuberculosis inducing jaundice. This syndrome developed in a child of 8 with irregular fever, headache and great prostration for a month with increasing jaundice and diarrhea, but autopsy showed the liver and bile passages in comparatively normal condition and the latter unobstructed. In another case the jaundice developed during the last week of an acute miliary tuberculosis. In another case the jaundice persisted for two years and the liver was much enlarged. Autopsy disclosed tuberculous cheesy glands and amyloid liver but the lungs were nearly intact. There had been no suspicion of tuberculosis in this case, all the signs pointing to the liver. This tuberculous jaundice is the result of great destruction of red corpuscles by the toxins, the hemolysis being evident in the gorged phagocytes crowding the liver and spleen. Even a concomitant cirrhosis of the liver is not necessarily responsible for the jaundice.

Riforma Medica, Naples

July 4, XXVI, No. 27, pp. 729-756

189 The Gastric Flora in Normal and Pathologic Conditions. G. Fiorito.
190 Favorable Experiences with Vein Anesthesia in 16 Cases. (Sull' anestesia per via endovenosa secondo Bier.) C. Manfelli.
191 Relations between Pseudoleukemia and Glandular Tuberculosis. V. Gaudiani.

July 11, No. 28, pp. 757-784

192 Cerebellar Syndrome and Disturbances in Speech of Malarial Origin. G. Rummo.
193 Anatomic Diagnosis of Congenital Endocarditic Pulmonary Stenosis. G. Pollaci.

Norsk Magazin for Lægevidenskaben, Christiania

July, LXXI, No. 7, pp. 657-784

194 *Case of Congenital Myxedema with Improvement under Thyroid Treatment. (Infantilt medfødt myxødem: myxidioti.) C. Døderlein.
195 *Chemical Examination of Urine in Diabetes. C. Geelmuyden.
196 *Review of 113 Cases of Mammary Cancer. (Bidrag til mamma-carcinomernes statistik.) N. Paus.
197 Importance of Experimental Pathology for Study of General Biologic Phenomena. M. Haaland.

194. **Congenital Myxedema.**—Døderlein's case is a striking example of the peculiar, far-reaching importance of the thyroid for the physical and mental growth and development, and the lack of both with lack of thyroid functioning. The child was born with typical pure myxedema and at the age of 4 looked still like a 10-months babe, being a pronounced idiot. No traces of the thyroid could be discovered on palpation. Thyroid treatment was then commenced and in 3 months the child was transformed under its influence, it had grown 10 cm. in height and has developed normally since, and is now lively and healthy.

195. **Chemical Examination of the Urine in Diabetes.**—Geelmuyden emphasizes the importance of estimating the degree of auto-intoxication in diabetes by examining the urine, and reiterates that the tests for acetone and oxybutyric acid are too complicated for general use. The proportion of ammonia, however, is readily determined, and is a reliable index of the acidosis and thus a faithful guide to treatment.

196. **Mammary Cancer.**—Paus analyzes the experiences of 16 years with cancer of the breast, a total of 113 cases; 37 non-malignant mammary tumors were also encountered during this period. In the 113 cancer cases, 68.8 per cent. of the women were married and from 14 to 21.9 per cent. had had over 6 children. In 2 cases the tumor was first observed during lactation and in another case during a pregnancy. The ultimate outcome is known in 70 cases and 20.3 per cent. of these patients have been free from recurrence for over 5 years since the removal of the cancer; 31.4 per cent. for over 3 years. The recurrence was local in 60.4 per cent. of the 53 recurring cases; 27 in the first, 1 in the second and 4 in the third year. Rheumatoid pains after the third year were the first signs of metastasis in one case, but with nothing to suggest their malignant origin for another year. Only one of the patients was a man. He was a laboring man of 31, who first noticed the lump in his chest at the age of 15. It gradually increased to the size of an egg but caused no symptoms until a contusion of the chest started it to rapid growth and it was found inoperable 3 months later. The prognosis of mammary scirrhus is better than that of carcinoma. Paus' advice is to remove every tumor in the breast at once, whether malignant or not. "Rather no breast than a cancer breast," he quotes. He tabulates his material from various standpoints and compares it with that of others.

Ugeskrift for Læger, Copenhagen

July 21, LXXII, No. 29, pp. 859-884

198 *Cancer of the Throat. (Kliniske Bidrag til Strubekraeftens Patologi.) E. Schmiegelow. Commenced in No. 28.

198. **Cancer of the Throat.**—Schmiegelow entreats the general practitioner to appreciate the fact that there are very few organs in the body from which cancer—diagnosed in time—can be removed with as good prospects of a complete cure as from the throat. He has encountered 48 cases of primary endolaryngeal cancer, the patients all male but 8, and all were over 40 except one woman in the twenties and one man and one woman in the thirties. The growth was in the vocal cords in the majority, and hoarseness was the first symptom to call attention to the throat in 37 cases. As a rule the hoarseness developed gradually but in a few cases it came on acutely with a catarrhal laryngitis and after a series of remissions became chronic. Even in the laryngoscope the picture may be apparently that of an ordinary chronic catarrhal affection. A tuberculous infiltration of the vocal cord may also deceptively simulate cancer. He has had several such cases in which no signs of tuberculosis could be detected elsewhere and the tuberculous nature of the process was distinguished only by microscopic examination of an excised scrap of the tumor. In 25 of his cases the cancer was differentiated in this way; in the others the disease was at a stage beyond all doubt. The excised scrap must be taken deep enough to be truly characteristic. In 2 there was both a cancer and a benign growth in the same throat. Seven of the 20 patients whose laryngeal cancer was removed by thyrotomy from 1 to 10 years ago are still living; another died of tuberculosis 4 years after the operation; another of gastric cancer after 8 years, and another of rectal cancer after 17 years. The proportion of permanent cures without local metastasis was thus 50 per cent. in the thyrotomy cases; 20 per cent. of the 5 cancers removed by the endolaryngeal route, and 20 per cent. of the 5 removed by total resection of the larynx. Thyrotomy may be regarded as an efficient means of curing cancer in the larynx if diagnosed early. The endolaryngeal route exposes too much to local recurrences later. In one of his cases the local recurrence did not develop until after an interval of 7 years, and the man is still living, 3 years later, but the growth is now inoperable. Age is no contraindication to thyrotomy. One of his patients was a man of 71 who is still in good health 4½ years after the thyrotomy.

Books Received

All books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. A selection will be made for review in the interests of our readers and as space permits.

MENTALLY DEFICIENT CHILDREN: THEIR TREATMENT AND TRAINING. By G. E. Shuttleworth, B.A., M.D., Medical Examiner of Defective Children to the Willesden Education Committee, and formerly to the School Board for London, etc., and W. A. Potts, B.A., M.D., Consulting Medical Officer, National Association for the Feeble-Minded, etc. Cloth. Price $2 net. Pp. 236, with illustrations. Philadelphia: P. Blakiston's Son & Co., 1910.

THE HARVEY LECTURES. Delivered under the auspices of the Harvey Society of New York 1908-09. By Prof. A. Calmette, Prof. W. G. MacCallum, Prof. Graham Lusk, Prof. W. Falta, Dr. John F. Anderson, Dr. M. J. Rosenau, Prof. A. B. MacCallum, Prof. J. B. Leathes, Prof. Philip Hanson Hiss, Jr., Dr. C. B. Davenport. Cloth. Price, $2. Philadelphia and London: J. B. Lippincott Co., 1910.

THE SANITARY PRIVY: ITS PURPOSE AND CONSTRUCTION. By Ch. Wardell Stiles, Ph.D., Professor of Zoology, Hygienic Laboratory. Public Health Bull. 37, U. S. P. H. and M. H.-S. Treasury Dept. Paper. Pp. 24, with 12 illustrations. Washington: [Superintendent of Documents] Government Printing Office, 1910.

MICHAEL SERVETUS. HIS LIFE AND TEACHINGS. By Carl Theophilus Odhner, Professor of Church History, Academy of the New Church, Bryn Athyn, Pa. Cloth. Price 50 cents. Pp. 96, with illustrations. Philadelphia: J. B. Lippincott Co., 1910.